

# Self Medication among University Students of Karachi

Yasmin Mumtaz, S. M. Ashraf Jahangeer, Tahira Mujtaba, Shahla Zafar, Sara Adnan

## ABSTRACT

**OBJECTIVE:** To find out frequency of self medication among university student of Karachi Pakistan.

**METHODOLOGY:** A cross sectional study was conducted between July – August 2008. For the purpose 207 students from 2 Universities of Karachi, one medical and one Non-medical were selected through non-probability convenience sampling. Data was collected through self administered questionnaire, analyzed using SPSS v 10.

**RESULT:** Among 207 participants', 103 were students of Karachi University while 104 were studying at Dow University. Mean age was 22 years and male: female ratio was 1:4. Frequency of self medication was found to be 80.4%. The most common reason for not consulting the doctor was "Problem not serious" & the most common symptoms when self medication sought were headache (62.3%) and fever (49.8%). The 62% participants' knew that Self medication could be harmful.

**CONCLUSION:** Frequency of self medication was high in educated youth despite the fact that majority found aware of its harmful effects. There is need to revisit the definition and relative significance of 'self-medication' in our local setting.

**KEYWORDS:** Frequency, Self-medication, University Student, Medical, Nonmedical,

## INTRODUCTION

Self medication is a component of self care and it is considered as primary public health resource in health care system.<sup>1</sup> Self medication can be defined as use of non-prescription medicines by people on their own initiative.<sup>2</sup> Self medication also encompasses the use of the medicines by the users for self perceived health problems or the continuing use of medications formally prescribed earlier. Further broadening of the definition includes treatment of family members especially to minors and elderly.<sup>1</sup>

Self medication increases the chances of illicit use of drug<sup>3</sup> 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.<sup>4-8</sup> On the other hands self medication by the people who accept responsibility and are careful is a resource saving phenomenon to the health system. Easy availability of the drugs over the counter facilitates self medication. Self medication is a universal phenomenon and practiced globally with varied frequency.<sup>4,9-13</sup> However prevalence of self medication is higher in low and middle income countries. Research showed that literate people tend to practice self medication more than illiterates.<sup>9,14</sup> Considering the biology and physiological profile of adolescents and assuming that young adult students have low perception of the risk; more knowledge about the drugs and their use and therefore usually avoid seeing the physicians for their medical problems; are likely to

practice self medication.<sup>9,15-16</sup> There is paucity of literature regarding self medication in our local setting. This study presents the results over the Pakistani youth's knowledge, attitude, and practice towards self medication.

This study was aimed (1) to find out the frequency of self medication in selected university students, (2) to find out the difference in the proportions of self medication between medical and non medical university students, and (3) knowledge of harmful effects of self medication, reasons for not consulting the doctor & common problems for which students rely on self medication.

## METHODOLOGY

A cross sectional survey was conducted during July 2008 – August 2008. Two universities of Karachi, one Medical (Dow University of Health Sciences) and one non Medical (Karachi University) were selected.

A sample of 207 participants was taken. Students sitting in the common rooms were approached through non-probability convenience sampling; verbal consent was taken from them. Data collection was done by self administered questionnaire. The study questionnaire was adapted from various similar studies conducted previously and pre tested on a sample of 10 participants. Data management and analysis was done on SPSS version 10.

Ethical Approval was given by Dow University of Health Sciences, Department of Community Health

## Self Medication among University Students

Sciences before administering the questionnaire. All other ethical requirements including verbal consent and confidentiality were insured.

### RESULTS

The number of students participated in the study were 207, having mean age of 22 years, the overall response rate was 96%. The 103 participants' were studying at non medical and 104 were medical university students. There females were 165 (79.7%). Frequency of self Medication among university students was 80.4%. The commonest reasons for self medication were "Problem not serious (46.9%) and previous experience (30.9%) as shown in **Table I**. The symptom(s) for which Self medication was done includes headache (62.3%), fever (49.8%), flu, cough & cold (48.3%) & pain elsewhere (44.4%) as shown in **Table II**.

Brand was selected on the basis of previous experience (48.8%), while in 21.3% cases it was suggested by pharmacist & chemist. Only 62% of the participants knew that self Medication can be harmful.

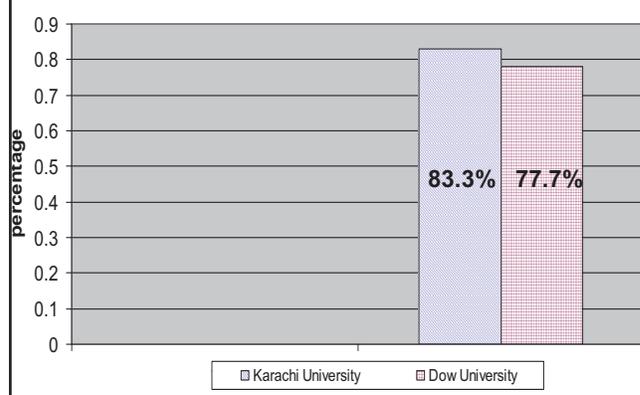
**TABLE I: REASONS FOR NOT CONSULTING A DOCTOR (n=207)**

Factors	Count	%
Problem not serious	97	46.90
Previous experience	64	30.90
Lack of time	37	17.90
Advice from friend	02	01.00
Unavailability of transport	01	00.50
Cost of consultation	07	03.40
Urgency of problem	06	02.90

**TABLE II: COMMON PROBLEMS/SYMPTOMS REPORTED AND THE COMMONLY USE SELF-MEDICATIONS BY THE STUDENTS (n=207)**

Symptoms reported	Count	%	Drugs used	Count	%
Headache	129	62.30	Pain killers	136	65.70
Fever	103	49.80	Fever relieving	56	27.10
Flu, cough & cold	100	48.30	Antibiotics	25	12.10
Pain else where	92	44.40	Anti allergy	16	07.70
Diarrhoea	56	27.10	Indigestion drugs	12	05.80
Allergy	36	17.40	Vitamins	20	09.70
Inability to sleep	16	07.80	Sleeping pills	05	02.40

**Figure 1. Frequency of self-medication among university students in Karachi (n=199)**



\*N=199 instead of 207 because of partially missing data on 8 participants

### DISCUSSION

According to this study self reported frequency of self medication among university students both medical and non medical is about 80%. This study endorses earlier reported local estimates of self medication among university students. A recent study with similar objectives reported that 76% of the university students self medicate. It was among the first published estimate on the self medication among students<sup>14</sup>. On the other hand, frequency of self reported medication is highly variable in different parts of the world; as low as 45% in Turkey to as high as 94% in Hong Kong<sup>19-20</sup>. Deshpande SG<sup>21</sup> has reported that "31% persons visiting medical store practiced self medication. This contrasting variation to report self medication may be due to the differences in study subjects, working definition of self medication and tool used to collect the response of the participants. Yet the consistent findings of self medication among educated people in different reported series<sup>12, 15, 17, 21-22</sup> worth further investigation.

World Health Organization considers self medication as part of the self care that helps efficient use of the burdened health care system<sup>1</sup> with guidelines for the regulatory assessment of medicinal products for use in self-medication. The recent trend is to expand the list of over the counter medicines and to increase the availability of controlled drugs; this will give more liberty and choice to the people to take informed treatment decisions<sup>23,24</sup>. However inflating the list of over the counter drugs is questionable especially in less educated society with weak health systems where most of the medical care cost is out of the pocket of the patients. Also it is understandable that higher rate of self medication is associated with less control and easy availability of drugs<sup>25</sup>. The case for advocating the self medication in our local society is quite weak, where drug resistance is emerging and even prescription medicines' are readily available and can be dispensed through inexpert hands.

To us self medication may be justified only in safe hands that are aware of the nature of the drug and able to perceive the drug related side effects. Similarly self medication may find rationale where the situation is not serious and the complaint is well evident<sup>26</sup> like headache after a tiring day for an otherwise healthy person could use up to one gram of acetaminophen in a single dose. Therefore as an optimistic approach "self medication "is not always hazardous when one knows for what complaint which medicine is to be use. However it is necessary to educate people for circumstances where they may self medicate and when they must see a doctor even for apparently trivial complaint. In this study headache, fever, flu and general ache, were the most reported complaints for which drugs were taken. Other complaints include diarrhoea, allergy and sleep problems. To us the latter problems are by nature needs expert help and needed not to be self medicated. The self medication for similar pattern of ailments was experienced by the pupils in earlier reported published literature.<sup>14</sup>

Consistent with the earlier finding<sup>14</sup> for type of drug used, pain killers were most commonly used followed antibiotics and fever relieving medicines in this series. In contrast to the earlier study<sup>14</sup>, sleep problems and use of sleeping pill was less in current study. Albeit about 8% reported sleep problems but only 2.4% reported use of sleeping pills. This could be due the various reasons. Pupils may have sleep problems, majority is coping and just a proportion is using sleeping pills or the respondents deliberately underreported the use of sleeping pill.

Much has been written about the risk perception and "unrealistic optimism"<sup>27</sup> of young adults.<sup>28-33</sup> This study also has an element that indicates towards the risk and hazard perception ability of the pupils. De-

spite engaged in self medication practices about half of the pupils considered there problems as less serious or trivial. Comparing to the earlier report<sup>14</sup> this study find even a lower proportion of pupils not consulting a doctor for medical problem just due to cost issue. Our data suggests that majority of respondents of this study did not consult a doctor due to the other reasons and not due to the cost. In compliance with the earlier reports this study also did not find a difference between the proportions of self medication in medical versus non medical students. It shows that self medication among youth is equally prevalent regardless of their education type and knowledge of drugs and related products.

It would be interesting to know further about the risk and hazard perception of young adults especially regarding self care. Future studies should be directed to describe the perceived hazard.

#### LIMITATIONS

The questionnaire was self reported one and this could have led to under or over reporting of the self medication practices. The second limitation of this study was that it was a convenience sample which is inferior to probability sampling in its representativeness. Also the sample size was not fairly large to generalize the result.

#### RECOMMENDATION

Awareness and education regarding the implications of self medication.

Revisiting the definition and the scope of self medication in our local setting.

#### CONCLUSION

The frequency of self medication practices is alarmingly high in the educated youth of Pakistan and is the same in both medical and non medical students despite the majority knowing that it is incorrect.

#### REFERENCES

1. World health organization. WHO guidelines for the regulatory assessment of medicinal products for use in self-medication. WHO/EDM/QSM/00.1. 2000. accessed on 5 July 2011, URL:<http://apps.who.int/medicinedocs/pdf/s2218e/s2218e.pdf>
2. World Self Medication Industry. Responsible Self-Medication. Joint Statement by The International Pharmaceutical Federation and The World Self-Medication Industry accessed on 5 July 2011, URL: <http://www.wsmi.org/pdf/fip.pdf>
3. Sean Esteban McCabe, Christian J. Teterb and Carol J. Boyda. Illicit use of prescription pain medication among college students. Drug and Alcohol Dependence. Volume 77, Issue 1, 7 Janu-

- ary 2005, Pages 37-47
4. Ferris DG, Nyirjesy P, Sobel JD, Soper D, Pavletic A, Litaker MS. Over the Counter Antifungal Drug Misuse Associated With Patient Diagnosed Vulvovaginal Candidiasis. *Obstet Gynecol.* 2002 Mar;99(3):419-25.
  5. Bauchner H, Wise P. Antibiotics without prescription: "bacterial or medical resistance"? *Lancet* 2000; 355: 1480-84.
  6. Calabresi P, Cupini LM. Medication-overuse headache: similarities with drug addiction. *Trends Pharmacol Sci* 2005; 26: 62-8.
  7. French L, Horton J, Matousek M. Abnormal vaginal discharge: what does and does not work in treating underlying causes. *J Fam Pract* 2004; 53: 805-14.
  8. Ashina S, Zeeberg P, Jensen RH, Ashina M. [Medication overuse headache] *Ugeskr Laeger* 2006; 168: 1015-9.
  9. Klemenc-Ketis Z, Hladnik Z, Kersnik J. Self-Medication among Healthcare and Non-Healthcare Students at University of Ljubljana, Slovenia. *Med Princ Pract.* 2010;19(5):395-401. Epub 2010 Jul 14.
  10. Abahussain E, Matowe LK, Nicholls PJ. Self-Reported Medication Use among Adolescents in Kuwait. *Med Princ Pract.* 2005 May-Jun;14(3):161-4
  11. Väänänen MH, Pietilä K, Airaksinen M. Self-medication with antibiotics--Does it really happen in Europe? *Health Policy.* 2006 Jul;77(2):166-71. Epub 2005 Aug 10
  12. Zafar SN, Syed R, Waqar S, Zubairi AJ, Waqar T, Shaikh M et al. Self medication amongst university students of Karachi. Prevalence, knowledge and attitudes. *J Pak Med Assoc.* 2008 Apr;58(4):214-7
  13. Bretagne JF, Richard-Molard B, Honnorat C, Caekaert A, Barthélemy P. Gastroesophageal reflux in the French general population: national survey of 8000 adults. (Abstract) *Presse Med.* 2006 Jan;35(1 )23-31
  14. Henry James, Shailendra S. Handu, Khalid A.J. Al Khaja, Sameer Otoom, Reginald P. Sequeira. Evaluation of the Knowledge, Attitude and Practice of Self-Medication among first-Year Medical Students. *Med Princ Pract* 2006;15:270-275
  15. Shankar PR, Partha P, Shenoy N. Self medication and non doctor prescription practices in Pokhara valley, *BMC fam pract* 2002; 3; 17.
  16. Figueiras A, Caamano F, Gestal-Otero JJ. Socio-demographic factors related to self-medication in Spain. *Eur J Epidemiol* 2000; 16: 19-26.
  17. Buke C, Limoncu M, Ermevtcan S, Cicekliogly M, Tuncel M, Kose T, et al, Irrational use of antibiotics among university students. *J Infect* 2005; 51: 135-9.
  18. Chang FR, Trivedi PK. Economics of self medication; theory and evidence. *Health Econ* 2003; 12; 721-739.
  19. Aljinović-Vucić V, Trkulja V, Lacković Z. Content of home pharmacies and self-medication practices in households of pharmacy and medical students in Zagreb, Croatia: findings in 2001 with a reference to 1977. *Croat Med J.* 2005 Feb;46(1):74-80.



*AUTHOR AFFILIATION:*

**Dr. Yasmin Mumtaz** (*Corresponding Author*)

Associate Professor, Department of Community Medicine  
Dow University of Health Sciences  
Karachi, Sindh-Pakistan.  
Email: zafar\_duhs@yahoo.com

**Dr. S. M. Ashraf Jahangeer**

Assistant Professor, Department of Community Medicine  
Dow University of Health Sciences  
Karachi, Sindh-Pakistan.

**Dr. Tahira Mujtaba**

PhD Pharmacology UK

**Dr. Shahla Zafar**

PhD Biochemistry UK

**Dr. Sara Adnan**

Clinical Psychologist