Send Orders for Reprints to reprints@benthamscience.ae

The Open Public Health Journal, 2017, *10*, 63-68

The Open Public Health Journal

Content list available at: www.benthamopen.com/TOPHJ/

DOI: 10.2174/1874944501710010063

RESEARCH ARTICLE

Self-Medication Practices Among Health Care Professional Students in a Tertiary Care Hospital, Pune

Manjusha Sajith[1,*], Sruthi M. Suresh[2], Naveen T. Roy[2] and Dr. Atmaram Pawar[1]

[1]*Department of Clinical Pharmacy, Poona College of Pharmacy, Bharati Vidyapeeth University, Pune, Maharashtra, India*

[2]*Poona College of Pharmacy, Bharati Vidyapeeth University, Erandwane, Pune, Maharashtra, India*

Received: February 06, 2017 Revised: March 28, 2017 Accepted: March 29, 2017

Abstract:

Background:

Self-medication practice is common among health care professionals due to their professional exposure to drugs and knowledge of treatment of their disease.

Objective:

The aim was to assess self-medication practice among medical, pharmacy, and nursing students in a tertiary care hospital, Pune. Method: A cross-sectional survey was carried out over a period of three months. A self-administered questionnaire was used for data collection.

Results:

A total of 318 students participated in the survey; among them106 were medical, 106 were nurses and 106 were Pharmacy students. Out of the total participants, 52.5% were females. Among them, 280 (87.5%) were practicing self- medication. Most drugs for self-medication were obtained from the pharmacy or drug shops, and the most commonly used drugs were non-steroidal anti-inflammatory drugs(81.2%) and antipyretics (67.6%) and antibiotics (35.0%). However, 112 (35.0%) of health care professional students had received antibiotics without medical prescription in the past few months. Common reported illnesses were fever and chills (62.5%) followed by headache (40.0%) and common cold(35.0%).The main reasons for self- medication was that their knowledge about drugs and diseases helped them (67%) and their health problem was not serious(65%). 40 (12.0%) were against self -medication practice and their reasons were fear of misdiagnosis of illness and adverse effect of drugs.

Conclusion:

Our study concluded that self-medication was practiced with a range of drugs among health care professional students. Educating the students and creating awareness among them may decrease the chance of self-medication practice.

Keywords: Self-medication, Health, Drugs, Disease, Treatment, Tertiary, Self-medication, Inflammatory drugs, Antipyretics, Antibiotics, Health care.

INTRODUCTION

According to WHO, self-Medication is defined as “the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms”. It involves obtaining medications without a prescription, taking medicines on the advice of pharmacists, relative or friends without consulting medical professional, sharing medicines with family members /friends or consuming leftover medicines stored at home [1]. Self-medication can help treat minor ailments

* Address correspondence to this author at the Department of Clinical Pharmacy, Bharati Vidyapeeth University, Poona College of Pharmacy, Pune, Maharashtra, India; Tel: +91-9730080959; E-mail: manjusaji1@yahoo.com

that do not require medical consultation and hence reduce the pressure on medical services particularly in the deprived countries with inadequate health care resources. In a number of developing countries, many drugs are dispensed Over The Counter (OTC) without medical direction [2].

Use of medication without medical guidance is inappropriate because using insufficient dosages or incorrect or unnecessary drugs increases wastage of resources, resistance of pathogens, drug dependence and causes serious health hazards such as adverse reaction and prolonged suffering [3]. Antimicrobial resistance is a current problem worldwide particularly in developing countries where antibiotics are often available without a prescription [4].

The prevalence of self- medication practices is alarmingly high in health-care students, despite knowing the consequences and potential risks. The reasons for self-medication practice among health care professionals are easy availability of drugs, professional exposure to drugs and knowledge of treatment of the diseases. Another reason for non-prescription drugs amongst youth is the exposure to media and advertisements.

Survey of self-medication among student population is important because this population represents a segment of highly-educated members of the society that have better access to healthcare-related information. Of particular significance is research on self-medication among the population of medical students, because they are the future generation that will have the right to prescribe drugs and to work on healthcare education. Additionally, their attitudes towards pharmacotherapy could affect the way they will prescribe medication in the future [5]. Therefore, the purpose of our study was to access the self-medication practices among Health care professional students in a tertiary care hospital.

MATERIALS AND METHODS

A cross-sectional observational survey was carried out among medical, pharmacy and nursing students of a tertiary care hospital, Pune for a period of three months with sample size of 318. A convenience sample of 318 participants was recruited from the students enrolled in medical, pharmacy and nursing courses with a confidence interval of 95% and margin of error of 5.5%. In order to have equal distribution, 106 medical students, 106 pharmacy students and 106 nursing students were included in the study. The study protocol was approved by the college research committee. The objectives were explained to the students involved in the study and their verbal consent was obtained. All the participants ensured confidentiality. The data were collected through self -administered pretested questionnaire prepared in English. The study questionnaire was opted from similar study conducted previously by Zafar SN *et al.* [6]. The self-administered questionnaire was validated by research committee and faculty of Clinical Pharmacy Department, Bharati Hospital & Research Centre, Pune. Data collection sheet consists of two sections; the first section was about demographic information and characteristics (like age, gender, level of education, college and year of study, etc.), while, the second section had questions like number of drugs used in the last three months, practicing self- medication yes or no, presence or absence of medical indication, with and without prescription, adverse effect, sources of information. Pilot study was carried out in 36 students. During the pilot study, the participants were responded to all questions without confusions. Reliability scale evaluation was performed and good Cronbach's alpha ($\alpha = 0.78$) score was achieved. Descriptive data analysis was conducted and reported as frequencies and percentage to identify the demographic of patients, classes of drugs used for self- medication and reasons for self-medication.

RESULTS

Out of 318 health science students, 88.0% were practicing self-medication whereas, 12.0% denied for taking medications on their own. Out of 318 participants, 52.5% were female. It was also found that, 84.0% of the students participated were less than 25 years, and 16.0% were more than 25 years. Other than Allopathic medicines, students were also using homeopathic (7.0%) and ayurvedic drugs (9.0%) for self- medication (Table **1**).

Table 1. Demographic characteristics of the participants.

Socio demographic variables	Number of students	Percentage (%)
Age (years)		
Less than 25	268	84.0
More than 25	50	16.0
Gender		
Male	152	47.5
Female	166	52.5

(Table 1) contd.....

Socio demographic variables	Number of students	Percentage (%)
Educational status		
Medical	106	33.3
Pharmacy	106	33.3
Nursing	106	33.3

Figure (**1**) shows the reason for self-medication which showed that majority of students (67.0%) were taking self-medication because they were aware of the symptoms and their treatment and 65.0% were practicing self-medication because of minor ailments.

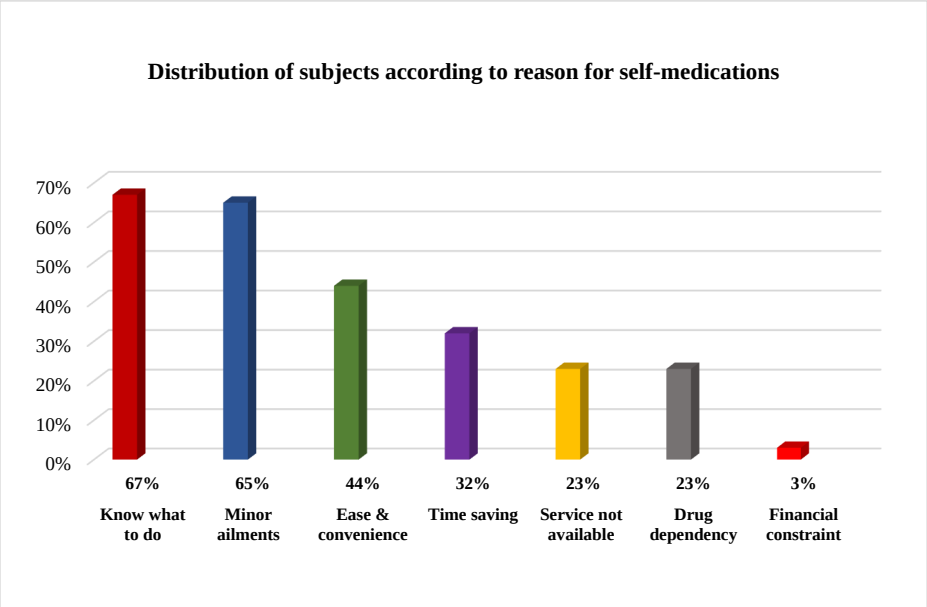

Fig. (1). Distribution of subjects according to reason for self-medication.

Table **2** lists the illnesses for which the students used self-medication. Common illness for self-medication was fever with chills (62.5%), followed by headache (40.0%), cough and common cold (35.0%).

Table 2. Illness (indications) for self-medication.

Illness	Frequency	Percentage (%)
Fever & chills	198	62.5
Pain	132	40.0
Cough & common cold	112	35.0
Diarrhea	104	33.0
Constipation	90	28.0
Allergy	82	26.0
Gastric pain	74	23.0
Fungal/ microbial infection	48	15.0
Others	26	8.0

Table **3** indicates the types of medications (drugs) used in self-medication practice among the respondents. The most common class of drugs used was found to be analgesics (81.2%), anti-pyretic (67.6%) and anti-inflammatory (41.0%).

Table 3. Drugs used for self-medications.

Drugs used for self-medication	Frequency	Percentage (%)
Analgesics	258	81.2
Anti-pyretics	214	67.6

(Table 3) contd.....

Drugs used for self-medication	Frequency	Percentage (%)
Anti-inflammatory	130	41.0
Antibiotics	112	35.0
Antacid	104	33.0
Laxatives	86	27.0
Anti-histamines	82	26.0
Nutritional supplement	50	16.0
Energy supplement (vitamins/minerals)	42	13.0
Topical applications	24	7.3

Figure (**2**) represents the distribution of self-medication among health care students in which most number of students who were on self- medication was medical students (34.2%), followed by pharmacy and nursing (33.0%) students.

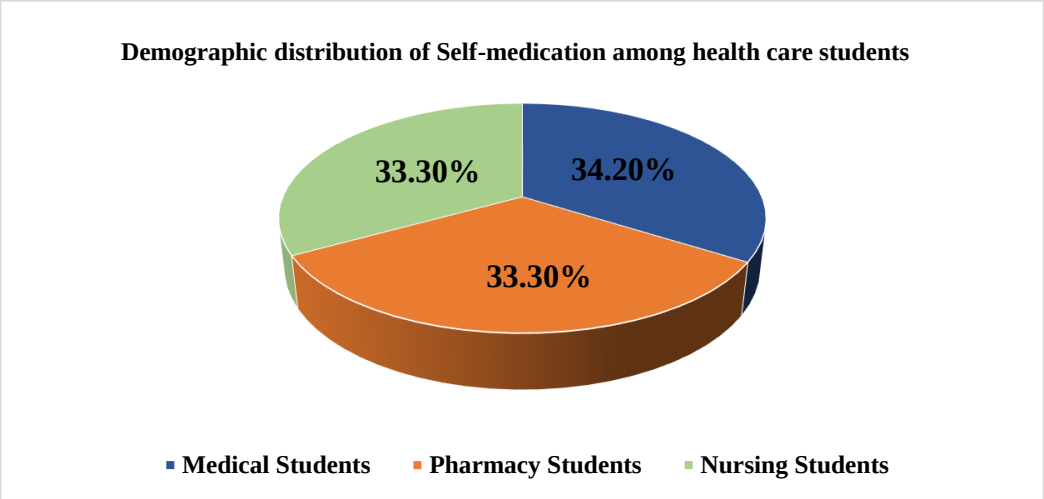

Fig. (2). Demographic distribution of Self-medication among health care students.

Table **4** indicates the sources of drug information from which the most common was Reading books for medical students(30.0%) and for pharmacy and nursing students, the sources were family, friends and previous medical expertise (23.0%) and (27.0%) Advertisement and Internet were also the sources of information for the students.

Table 4. Sources of information for self-medication.

Sources	Medical (%)	Pharmacy (%)	Nursing (%)
Family & friends	19	23	27
Previous medical expertise	23	23	27
Reading books	30	21	20
Advertisements	11	9	10
Internet	17	24	16

Out of 318 participants, 12% participants denied taking medications on their own. 78.6% mentioned the fear of adverse effect as the main reason while, 36 .7% did not take self-medication because of the fear of wrong diagnosis and 13.1% mentioned other reasons (Table **5**).

Table 5. Reason for not taking self-medications.

Reason	Number of students	Percentage (%)
Risk of adverse reaction	29	78.6
Risk of wrong diagnosis	14	36.7
Other reasons	05	13.1

30.0% of health care students practicing self-medication in our study were not aware of the adverse effect of the drugs which they were using (Table **6**).

Table 6. Frequency of knowledge about Adverse Reaction among students using self-medication.

Characteristics	Number of students with self medication (n=278)	Percentage (%)
Aware about Adverse effect of drugs	84	30.0%

DISCUSSION

In our study, we observed that 88.0% of the students were practicing self-medication, which is similar to a study conducted in Karachi [6], Malaysia [7] and Serbia [8], where self-medication was reported to be 76.0%, 77.6%, & 79.9% respectively. The incidence of self-medication practice reported by James H *et al.* [9] in Bahrain was 44.0% whereas, a study conducted in Karnataka [10] revealed 53.0% of students practicing self- medications. The high prevalence of self-medication in India is due to easy accessibility to OTC medicines without prescriptions. A study conducted by Banerjee *et al.* in west Bengalw [11] showed that female students were found using self-medication more than males, which when compared to our study, showed similar results. The percentage of self-medication among female students in our study was 52.5%. The illnesses for which students were practicing self-medication were fever & chills (62.5%) followed by pain, headache, cough and common cold. Our results are similar to the study conducted by Abay SN *et al*. inEthiopia [12]. The drugs which were frequently used for self- medication in our study were Analgesics (81.2%) followed by Anti-pyretics(67.6%) and Anti- inflammatory (41.0%); these were the drugs which were used in high frequency; moreover, a study in karachi[6] also showed similar results. OTC medicines are safe and useful for treating minor ailments. Despite the significant benefits of self-medication, there are some inherent risks as well. High prevalence of self-medication with antibiotics results in human pathogens resistance. In our study, 35.0% students were taking antibiotics without prescription. Many studies in developing countries showed the use of antibiotics to be high, as these drugs are easily available without prescription [6, 13]. A reason for self- medication reported in our study was that they knew how to treat minor ailments. These findings resemble with another study by Sharif *et al.* (only last name of author must be mentioned) conducted in Sharjah [14]. Another study in Oman showed reasons like previous expertise and minor ailment. Even after studying about the drugs and its usage pattern in detail, 30.0% of health care students in our study were not aware of the adverse effect of the drugs which they were using.

Also, our study found that 2.0% of the students experienced adverse reaction, whereas, in another study conducted by Badiger *et al.* (only last name of author must be mentioned) in Mangalore, the percentage was 5.0% [15], for which they visited physician or discontinued the drugs. The sources of information in our study were reading books, Internet and family- friends, which when compared to a study by Pragna Patel *et al*. [16] in Gujarat showed similar results. In our study, we also found that 60.5%of the students who were practicing self- medication suggested to their friends and family.

CONCLUSION

In our study, we found that the use of self-medication among the health care students was high. The drugs which were greatly used among the students were analgesics, antipyretics and anti-inflammatory for the conditions such as fever and chills, headache and common cold. It is important for the health care students to understand the negativity of self-medication, and they must accept to enter the role of patient. Because of self-medication, lots of resources are also being wasted due to high usage of antibiotics that leads to resistance to pathogens, side effects and harm to the society. Educating the students and creating awareness among them may decrease the chance of adverse effect, therefore, health authorities should work together for the better quality of life.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Authors took approval from institutional research committee & consent was taken from participants.

HUMAN AND ANIMAL RIGHTS

No Animals/Humans were used for studies that are base of this research.

CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

ACKNOWLEDGEMENTS

Declared none.

REFERENCES

[1] World Health Organization Role of pharmacists in self-care and self-medication Available at: (http://apps.who.int/medicinedocs/pdf/whozip32e/whozip32e.pdf)

[2] Sherazi BA, Mahmood KT, Amin F, Zaka Z, Riaz M, Javed A. Prevalence and measure of self medication: A review. J Pharm Sci and Res 2012; 4(3): 1774-8.

[3] Bennadi D. Self-medication: A current challenge. J Basic Clin Pharm 2013; 5(1): 19-23.
[http://dx.doi.org/10.4103/0976-0105.128253] [PMID: 24808684]

[4] Pagán JA, Ross S, Yau J, Polsky D. Self-medication and health insurance coverage in Mexico. Health Policy 2006; 75(2): 170-7.
[http://dx.doi.org/10.1016/j.healthpol.2005.03.007] [PMID: 16338480]

[5] Epstein AM, Read JL, Winickoff R. Physician beliefs, attitudes, and prescribing behavior for anti-inflammatory drugs. Am J Med 1984; 77(2): 313-8.
[http://dx.doi.org/10.1016/0002-9343(84)90709-5] [PMID: 6465177]

[6] Zafar SN, Syed R, Waqar S, *et al.* Self-medication amongst university students of Karachi: prevalence, knowledge and attitudes. J Pak Med Assoc 2008; 58(4): 214-7.
[PMID: 18655436]

[7] Ali AN, Kai JT, Keat CC, Dhanaraj SA. Self-medication practices among health care professionals in a Private University, Malaysia. Int Curr Pharm J 2012; 1: 302-10.
[http://dx.doi.org/10.3329/icpj.v1i10.11846]

[8] Lukovic JA, Miletic V, Pekmezovic T, *et al.* Self-medication practices and risk factors for self-medication among medical students in Belgrade, Serbia. PLoS One 2014; 9(12): e114644.
[http://dx.doi.org/10.1371/journal.pone.0114644] [PMID: 25503967]

[9] 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. Med Princ Pract 2006; 15(4): 270-5.
[http://dx.doi.org/10.1159/000092989] [PMID: 16763393]

[10] Nalini GK. Self-medication among allopathic medical doctors in Karnataka, India. Br JMed Pract 2010; 3: 325-8.

[11] Banerjee I, Bhadury T. Self-medication practice among undergraduate medical students in a tertiary care medical college, West Bengal. J Postgrad Med 2012; 58(2): 127-31.
[http://dx.doi.org/10.4103/0022-3859.97175] [PMID: 22718057]

[12] Abay SM, Amelo W. Assessment of self-medication practices among medical, pharmacy, and health science students in Gondar University, Ethiopia. J Young Pharm 2010; 2(3): 306-10.
[http://dx.doi.org/10.4103/0975-1483.66798] [PMID: 21042491]

[13] 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; 46(1): 74-80.
[PMID: 15726679]

[14] Sharif SI, Osama HM. LailaMouslli and RihamWaisi. Evaluation of self-medication among pharmacy students. Am J Pharmacol Toxicol 2012; 7: 135-40.
[http://dx.doi.org/10.3844/ajptsp.2012.135.140]

[15] Badiger S, Kundapur R, Jain A, *et al.* Self-medication patterns among medical students in South India. Australas Med J 2012; 5(4): 217-20.
[http://dx.doi.org/10.4066/AMJ.2012.1007] [PMID: 22848313]

[16] Patel PM, Prajapati AK, 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: 181-6.
[http://dx.doi.org/10.5455/ijmsph.2013.2.173-178]