International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Original Research Article

Knowledge, Attitude and Practice of Self Medication among Under Graduate M.B.B.S. Students at Tertiary Care Teaching Hospital

Pavan J. Panchal, Ashna S. Pandya, Mitul R. Parmar

Tutor, Department of Pharmacology, GMERS Medical College, Sola, Ahmedabad, Gujarat, India.

Corresponding Author: Pavan J. Panchal

Received: 10/06/2015 *Revised: 24/06/2015* *Accepted: 25/06/2015*

ABSTRACT

Introduction: Self-medication is most frequent however less addressed malpractice among undergraduate medical student which promote irrational use of medicines and associated with many potential risks like development of antimicrobial resistance, adverse drug reactions, drug interactions, polypharmacy etc.
Objectives: To assess the prevalence, knowledge, attitude and practice of self medication among second MBBS students along with frequency and type of self medication.
Materials and methods: All second MBBS students who were willing to participate in study had been given pre-validated questionnaire, which was consisted of total 18 questions of knowledge, attitude and practice for self-medication. The questionnaires were collected and assessed for their completeness. The data was recorded in Microsoft Excel Worksheet and analyzed.
Result: Total 162 students have participated into current study with prevalence of self medication 81.4% and more prevalent among female students. The commonest clinical symptom was headache (96.7%). The majority of students used allopathic medications (81.2%) and NSAIDs as analgesic (98.2%) were most frequently practiced as self-medication. Antimicrobial prevalence was 54.2 % and most frequently used antimicrobial was amoxicillin for sore throat and superficial wound infections. Easily accessibility of medicines was most common reason for self medication. Brand of medication was most considered factor to choose self-medication in our study. Only one third of students have checked the expiry date of medicines and package inserts or labels before use of self-medicine. Only 5.5 % students have consulted health care professionals as their self medication did not work.
Conclusion: With very high prevalence of self medication practice among undergraduate students can have catastrophic results like severe adverse drug reaction, emergence of antimicrobial resistance and drug addiction etc. Easily accessibility of medicines as over the counter drug without prescription including schedule H drug, is main dilemma of self-medication among undergraduate medical students.

Key words: knowledge, attitude, practice, self medication, MBBS students.

INTRODUCTION

Self-medication can be defined as the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms. [1] Self-medication constitute a major form of irrational use of medicine and can cause significant adverse effects such as resistant microorganisms, treatment failures, drug

toxicity, increase in treatment cost, prolonged hospitalization periods and increase in morbidity. [2] Studies have shown that self medication is generally prevalent in the developing world. [3,4] It has been associated with several factors, particularly, lack of access to health care, availability of almost all the drugs as over the counter drugs, poor regulatory practices and the relatively higher prevalence of infectious diseases. [5,6] Investigation of self-medication among tertiary level students is important as this population constitute a segment of the society that is highly educated and more inclined to information about health. Of particular importance is the study of self medication among medical students who represent the future generation of drug prescribers and health educationists. [7] All India Institute of Medical Sciences, New Delhi observed that self-medication was considerably high among undergraduate medical and paramedical students in India and it increased with medical knowledge. There is a paucity of literature on the prevalence of self-medication among medical students and their attitude towards the same. [8] Hence, the present study will be conducted to assess the prevalence of self-medication among the undergraduate students of GMERS Medical College, Sola, Ahmedabad and to assess the students' perception and attitude regarding the practice of self-medication.

MATERIALS AND METHODS

Second M.B.B.S. students were allowed to participate in the study. The students were briefed on the aims and objectives of the study and written informed consents were obtained from those who were willing to participate in the study. A pre-validated questionnaire was used to collect the relevant information pertaining to the study variables. The questionnaire was consisted of total 18 questions regarding age, gender of the participating students and whether they self medicated or not, which is followed by questions regarding the knowledge, attitude and practice regarding self-medication. The students were asked to fill the questionnaire by themselves within 30 minutes. The questionnaires were collected and assessed for their completeness. The data was recorded in Microsoft Excel Worksheet and analysed.

RESULTS

There were total 162 students of second MBBS who had participated in the study, out of which female students were 91 (56.2%) and 71 (44.8%) were male students. Mean age of students were 20±1 years. Majority student (52.7%) were from rural part of state, only 48.3 percentage of students were from major cities. 53.9 percentage of students were having doctor in their families as their parents or siblings. Allopathic medicines (81.4%) were most commonly used as self-medication followed by herbal and Ayurvedic medicines (11.1%) and homeopathic medicines (4.5%) (Table 1).

Table 1 General characteristics of the students (n=162)

Variables	n (%)
Age	19-21 years
Gender	Male 71 (44.8%)
	Female 91 (56.2%)
Urban (U) / Rural (R)	Urban 78 (48.3%)
	Rural 84 (52.7%)
Family history of doctor	Yes 86 (53.9%)
	No 76 (47.1%)
Type of Medicines	Allopathic 132 (81.4%)
	Ayurvedic/Herbal 18 (11.1%)
	Homeopathic 6 (4.5%)

Table 2 Clinical symptoms for which students took self-medication (n=162)

No.	Symptom (s)	n (%)
1	Headache	156 (96.7)
2	Bodyache	122 (78.9)
3	Vomiting	57 (40.14)
4	Diarrhea	33 (23.23)
5	Abdominal Pain	27 (19.01)
6	Nasal congestion	79 (55.63)
7	Cough	88 (61.9)
8	Fever	139 (85.8)
9	Sore throat	95 (66.9)
10	Superficial wounds	18 (12.67)
11	Rhinitis	101 (71.12)
12	Insomnia	6 (4.22)
13	Itching	12 (8.45)

Most common clinical symptoms for which students took self-medication was headache (96.7 %) followed by fever (85.8 %), bodyache (78.9%) and sore throat (66.9 %) (Table 2). As mention in Table 3, most common drug group used by students for self medication was analgesic (NSAIDs) (98.2 %) followed by paracetamol as antipyretics (97.8 %), antihistamines (73.2 %) and antimicrobials (54.2 %). As shown in Table 4, majority of students (57.4%) were aware of definition of self medication. 51.8 percentage students were aware of which type of medications should allow for self medication as compare to only 17.2 percentage students were aware to type of medicines which should not allowed for self-medication. Only 47.5 percentages of students knew alternate name of self medication as "over the counter drugs". Most common source of their knowledge for self-medication were pharmacist (82.7%) followed by 53.7 percentage for friends and family members (53.7%) and advertisements (25.3 %).

Table 3 Drug groups used by students for self medication (n=162)

No.	Drug group (s)	n (%)
1	Analgesics (NSAIDs +opiods)	141 (98.2)
2	Antipyretics (Paracetamol)	139 (97.8)
3	Antimicrobials	77 (54.22)
4	Antihistamines (H_1 receptor blockers)	104 (73.23)
5	Multi-vitamins	54 (38.02)
6	Antidiarrhoeal	33 (23.23)
7	Antiemetics	57 (40.14)
8	Antispasmodic	15 (10.56)
9	Antacids, H_2 receptor blockers and proton pump inhibitors	58 (41.6)
10	Sedatives	6 (4.22)
11	Antitussive	88 (61.97)

Table 4: Knowledge of the students for self-medication (n=162)

No.	Type of questions	n (%)
1	Definition of self-medication	93 (57.4)
2	Which type of medications should allow for self-medication?	84 (51.8)
3	Which type of medications should not allow for self-medication?	28 (17.2)
4	Medicines which are allowed for self medication, are medically known as?	77 (47.5)
5	From where, did you get the information regarding these medicine(s)?	Friends/ Family members 87 (53.7)
		Advertisements 41 (25.3)
		Pharmacist 134 (82.7)

Table 5 Attitude of the students for self-medication (n=162)

No.	Type of questions	n (%)
1	Reason(s) for which you have taken self medication?	Cost saving 4 (2.4)
		Convenience 48 (29.6)
		Easily accessible 60 (37)
		Any other 12 (7.4)
2	What have you considered while selecting the medicine?	Brand of medicine 64 (39.5)
		Formulation 52 (32)
		Price of medicine 12 (7.4)
		Any other 8 (4.9)
3	What do you think, should self medication practice to be encouraged or not?	Yes 97 (59.8)
		No 65 (41.2)

In present study, easily accessibility of medicines (37%) was most common reason for self-medication among study students followed convenience (29.6 %) and cost saving (2.4%). Brand of medicine (39.5%) was most common factor while selecting self-medication followed by formulation (32%) and price of medicine (7.4%). According to 59.8 percentage of students, self-medication practice should be encouraged as compared to 41.2 percentage, who were not agreed for the same (Table 5).

As described in Table 6, 69.8 percentages of students had never checked expiry date of self medication and 71.6 percentages of students have not checked the label or package insert before use of the medicine. Only 14.8 percentages of students

were fully understood the instructions given in labels or package inserts. In majority cases (91.9 %) after self medication, students`s condition was improved. 94.5 percentage of students have never consulted health care professional if conditions not improved. 92 percentage of students have used same medicines for self-medication with same dose (80%). Majority of students in current study have suggested same medicine for the same condition to anyone else in family or friends. In the present study we observed 17 adverse drug reactions among students, though they were mild in severity according to modified Hartwing and Siegle scale.

Table 6 Practice of students self-medication (n=162)

No.	Type of questions	n (%)
1	Have you ever checked the expiry date before use of the medicine?	Yes 49 (30.2)
		No 113 (69.8)
2	Have you ever checked the label/package insert before use of the medicine?	Yes46(28.4)
		No 116 (71.6)
3	How much did you understand the instructions?	Fully understood 24 (14.8)
		Did not understand at all 4 (2.4)
		Partly understood 47 (29)
4	After self medication, whether your condition improved or not?	Yes 149 (91.9)
		No 13(8.02)
4 (a)	If No, than ever you consulted health care professional for that?	Yes 9 (5.5)
		No 153 (94.5)
5	Have you ever taken the same medicine more than once?	Yes 149 (92)
		No 13 (8)
5 (a)	Have you used the same dose or changed? (OUT OF 92%)	Same dose 130 (80)
		Changed 32 (20)
6	Have you ever suggested same medicine for the same condition to anyone else?	Yes 136 (84)
		No 26 (16)

DISCUSSION

The World health organization (WHO) defines self-medication as the selection and use of medicines by individuals (or a member of the individuals' family) to treat self-recognized or self-diagnosed conditions or symptoms. [9] If self-medication is not practiced rationally it can lead to impending risks which include: misdiagnosis, adverse drug reactions including severe drug reactions like anaphylactic shock, drug-drug interactions, wrong dosage and choice of therapy, polypharmacy and drug dependence and abuse liability. [8,9] In present study we aimed to evaluate prevalence of self-medication, knowledge, practice and attitude of students for self-medication. In our study prevalence of self medication was 81.4 percentages, which higher than to study (78.8%) conducted at Karnataka, India (2014). [10] In the similar studies conducted in Tamil Nadu and Uttar Pradesh the prevalence of self-medication among the medical students were 80.1 percentages and 87 percentages respectively. [11,12] In present study, gender wise distribution of prevalence was higher for female students (56.2%), similar observation was found in study carried out at Karnataka, India (2013). [10, 11, 13] In current study, we observed higher presence of doctor in families of medical students (53.9%) which indirectly responsible for higher prevalence among second MBBS students. We found similar results in other studies carried out in India. The majority of students used allopathic medications (81.2%), which is similar observation found in studies conducted respectively at Karnataka (2013), Tamil Nadu (2010) and Uttar Pradesh in India. [10-13]

In current study, commonest clinical symptom was headache (96.7%) as compared to fever which commonest symptom was observed in study conducted

at Karnataka, India (2013). [10] NSAIDSs group of analgesic (98.2%) was most frequently practiced as self-medication followed by paracetamol as antipyretics (97.8%) among study students. Same results were found in study done at Ethiopia (2011) and Pakistan (2008) among undergraduate medical students. [14,15] In our study, the usage of antibiotic as self-medication was 54.2 percentages and most frequently used antimicrobial was amoxicillin for sore throat and superficial wound infections with similar observation observed in study conducted at Tamil Nadu, India (2010). [14,15] Only half of students were fully-understood the concept of self-medication and most common source of drug information was in our study was pharmacist in contrast to previous prescription was most frequent source in study carried at Karnataka, India (2013). [10] As compared to other studies in India easily accessibility was most common reason for self-medication among student in current study. Brand of medication was most considered factor to choose self-medication in our study as compared to price in study carried at Uttar Pradesh, India (2010). [12] More than half (59.8%) students thought that self-medication practice should be encouraged which similar observation is found in studies conducted at Ethiopia (2011), Pakistan (2008) and Karnataka, India (2013). [14-16]

Only one third of students have checked the expiry date of medicines and package inserts or labels before use of self-medicine, which is lower than study done at Karnataka, India (2013). [10] In majority of cases (91.9%) conditions were improved after self-medications, which is higher than study carried out at Ethiopia (2011). [16-18] Only 5.5 percentages students have consulted health care professionals, which is lower as compared to similar study conducted at Karnataka, India (2013). [10] More than 90 percentages of students have used same medicine for same symptom in same dose based on their previous clinical experiences which motivate them to practice self-medication with overwhelming confidence. In current study we observed that self-medication was frequently practiced even in second MBBS students who still studying pharmacology and who do not have much clinical exposure to diagnosis own their own. Their incomplete knowledge, wrong attitude and irrational practice of self medication are more harmful than beneficial. Such practice leads to potential risks such as emergence of antimicrobial resistance, adverse drug reactions and masking of disease severity (as result of symptomatic treatment). Such practice of self medication should not be promote especially in future doctors and there much need of developing strict guideline to keep self medication practice in check.

CONCLUSION

In our study, high prevalence of self-medication practice among second MBBS students reflects that how easily allopathic and other type of medicine are accessible without prescription especially for cost and time saving among students. Such irrational practice should be prohibited by strict law enforcement and its implementation and developing of effective policies and creating awareness among undergraduate students.

REFERENCES

1. Guidelines for the regulatory assessment of medicinal products for use in Self medication, WHO 2000. Available: http://apps.who.int/medicinedocs/pdf/s2218e/s2218e.pdf. Accessed: 2015 March 05.
2. Balamurugan E, Ganesh K. Prevalence and pattern of self-medication use in coastal regions of South India. *BJMP*. 2011; 4 (3):a428.
3. Kumar N, Kanchan T, Unnikrishnan B *et al*. Perceptions and Practices of Self-Medication among Medical Students in

Coastal South India. *PLOS ONE*. 2013; 8 (8): e72247.
4. Martinez JE, Pereira GA, Ribeiro LG *et al*. Study of self-medication for musculoskeletal pain among nursing and medicine students at Pontifícia Universidade Católica - São Paulo. *REV BRAS REUMATOL*. 2014; 5 4 (2): 90 – 9 4. doi.org/10.1016/j.rbre.2014.03.002.
5. Loyola Filho AI, Lima-Costa MF, Uchoˆa E. Bambuı´ Project: a qualitative approach to self- medication. *Cad Saude Publica.* 2004*;* 20(6):1661–9.
6. Klemenc-Ketis Z, Hladnik Z, Kersnik J. A cross sectional study of sex differences in self- medication practices among university students in Slovenia. *Coll Antropo*l. 2011; 35 (2):329–34.
7. Burak LJ, Damico A College students' use of widely advertised medications *J Am Coll Health*. 2009; 49 (3):118–21.
8. Pandya RN, Jhaveri KS, Vyas FI, Patel VJ. Prevalence, pattern and perceptions of self-medication in medical students. *Int J Basic Clin Pharmacol*. 2013; 2(3): 275-280. doi:10.5455/2319-2003.ijbcp20130608
9. The Role of the Pharmacist in Self-Care and Self-Medication. [Internet] 2013[cited 2013 Feb 27] Available on: http:// apps.who.int/medicinedocs/pdf/whozip32e/whozip32e.pdf
10. Kumar N, Kanchan T, Unnikrishnan B *et al*. Perceptions and Practices of Self-Medication among Medical Students in Coastal South India. *PLOS ONE* . 2013; 8(8): e72247
11. Banerjee I, Bhadury T Self-medication practice among undergraduate medical students in a tertiary care medical college, *West Bengal J Postgrad Med* 2011; 58 (2):127–131.
12. Sontakke SD, Bajait CS, Pimpalkhute SA, Jaiswal KM, Jaiswal SR. Comparative study of evaluation of self-medication practices in first and third year medical students. *Int J Biol Med Res*. 2011; 2(2): 561–564.
13. Badiger S, Kundapur R, Jain A, Kumar A, Pattanshetty S, et al. Self-medication patterns among medical students in South India. *Australas Med J*. 2012; 5(4):217–220.
14. Kayalvizhi S, Senapathi R. Evaluation of the perception, attitude and practice of self-medication among business students in 3 select cities, South India. *IJEIMS*; 2010; 1(3):40–44. Available: http://www.ijcns.com/pdf/40-44. Accessed: 2013 Feb 27.
15. Verma RK, Mohan L, Pandey M Evaluation of self medication among professional students in North India: proper statutory drug control must be implemented. *Asian J Pharmaceutical Clin Res. 2010; 3* (1) 60–64.
16. Abay SM, Amelo W (2010) Assessment of self-medication practices among medical, pharmacy, and health science students in Gondar University, Ethiopia. *J Young Pharm* 2(3):306–310.
17. Gutema GB, Gadisa DA, Kidanemariam ZA, Berhe DF, BerheAH, et al. Self-Medication Practices among Health Sciences Students: The Case of Mekelle University *J Appl Pharmaceutical Sci*; (2011); 01(10):183–189.
18. Zafar SN, Syed R, Waqar S, Irani FA, Saleem S. Prescription of medicines by medical Students of Karachi, Pakistan: a cross-sectional study. *BMC Public Health* (2008) 19:162.

How to cite this article: Panchal PJ, Pandya AS, Parmar MR. Knowledge, attitude and practice of self medication among under graduate M.B.B.S. students at tertiary care teaching hospital. Int J Health Sci Res. 2015; 5(7):192-197.

****