ASIAN JOURNAL OF PHARMACEUTICAL AND CLINICAL RESEARCH

INNOVARE ACADEMIC SCIENCES
Knowledge to Innovation

Vol 9, Issue 6, 2016

Online - 2455-3891
Print - 0974-2441

Research Article

PATTERN OF SELF-MEDICATION AND DRUGS USE BEHAVIOR AMONG UNDERGRADUATE STUDENTS OF MEDICAL AND NON-MEDICAL COLLEGES IN A CITY OF NORTH-EAST INDIA - A COMPARATIVE STUDY

SARMISTHA DUTTA*, KAPIL HAZARIKA

Department of Pharmacology, Gauhati Medical College and Hospital, Guwahati, Assam, India. Email: mistha007@yahoo.co.in

Received: 26 July 2016, Revised and Accepted: 01 August 2016

ABSTRACT

Objective: The present study was undertaken to assess and compare the practice of self-medication and drug use behavior among undergraduate students of medical and non-medical colleges in a city in North-East India.

Methods: A cross-sectional questionnaire-based study was conducted among 300 undergraduate students each of medical and non-medical colleges of Guwahati city of Assam after taking informed consent. Approval of the Institutional Ethical Committee was taken before the commencement of the study. Data were collected with a pre-validated questionnaire related to various aspects such as class of drugs used for self-medication, conditions for which self-medication may be employed and their knowledge, attitude, and practice of self-medication Statistical analysis of the data was done.

Results: In our study, 71% of medical students and 63% of non-medical students practiced self-medication which was statistically significant. The most common drugs for self-medication were analgesics and antipyretics. Both medical and non-medical students considered non-severity of illnesses and quick relief from symptoms as the major reasons for self-medication. The major information source for most of the medical students who practiced self-medication was textbooks and package inserts. Medical students prefer allopathic system of medicine and non-medical students are more inclined toward the ayurvedic system.

Conclusion: Practice, knowledge, and awareness about self-medication are significantly more in medical students in comparison to non-medical students which can be attributed to their medical knowledge.

Keywords: Self-medication, Questionnaire, Package inserts, Allopathic, Awareness, Pharmacy.

 DOI: http://dx.doi.org/10.22159/ajpcr.2016.v9i6.14318

INTRODUCTION

According to the World Health Organization (WHO)'s definition, "Self-medication is the selection and use of medicines by individuals to treat self-recognized illness or symptoms" [1]. Medicines for self-medication are often called non-prescription or over the counter (OTC) drugs and are available without a doctor's prescription through pharmacies [2]. Medicines that require a prescription are called prescription products. Self-medication with OTC medicines is sometimes referred to as responsible self-medication to distinguish it from the practice of purchasing and using a prescription medicine without a doctor's prescription [3]. Self-medication is now increasingly being considered as a component of self-care [4]. Studies revealed that there is an increase in trends of self-medication particularly among the youth, pharmacists, and physicians [5,6]. Factors influencing self-treatment include patient satisfaction with the health-care providers, cost of the drugs, education level, socioeconomic factors, age and gender, lifestyle, ready access to drugs, the increased potential to manage certain illness through self-care, greater availability of health-care and health professionals, law, society, and exposure to advertisement [5,7]. The common problems for which most people go for self-medication include colds and flu, heartburn, infrequent and difficulty of passing stool, minor skin problems, and insect bites [8]. The patient empowerment is viewed as a positive step in the development of the relationship between patient and health-care provider and is considered as an important health policy concept [9]. The WHO has also pointed out that responsible self-medication can help prevent and treat ailments that do not require medical consultation and provide a cheaper alternative for treating common illnesses [10].

Although the practice of self-medication is as old as mankind, little has been exploited. The novelty of the study is regarding (a) the role of self-medication in prevention or treatment of disease, (b) factors leading to self-medication and the adequacy of knowledge, (c) pharmacists and their role in the healthcare, and (d) importance of proper regulatory policies toward self-medication. Hence, the present study has been taken to study the basic information on self-medication, use of drugs for different ailments, side effects, awareness, reasons for use, source of drug information, etc., among the undergraduate students of medical and non-medical colleges of Guwahati, a city in the north-eastern part of India.

METHODS

Study area

The study area was Guwahati city of Assam, a beautiful state in the North-Eastern part of India.

Study population and study tool

A cross-sectional questionnaire-based study was conducted among 300 undergraduate students each of medical and non-medical colleges of Guwahati after obtaining their informed consent. The study questionnaire was first pre-tested in 10 respondents and suitable modifications done.

Inclusion criteria

1. Students of either sex
2. Undergraduate students of the medical stream and non-medical stream by random selection are included in the study. Here, non-medical student refers to those pursuing streams other than medical and healthcare, e.g., arts, law, and technical.

Exclusion criteria

1. Students who have completed graduation or those who are not pursuing graduation studies
2. Students studying outside Guwahati.

Data were collected with pre-validated questionnaire related to various aspects such as demographic data, type of drugs used, ailments for which self-medication may be employed, and their knowledge about self-medication. The data collected was kept confidential maintaining the privacy of the subjects. The students were briefed on the aims and objectives of the study. The questionnaires were assessed for their completeness, and only the completed questionnaires were considered for the final analysis. Data were expressed as counts and percentages. Statistical comparison of data between the two groups was done by Chi-square test using GraphPad Prism version 5.0, and $p<0.05$ was considered statistically significant.

Study duration

The study was conducted for a period of 3 months from July 2013 to September 2013. Approval of the Institutional Ethical Committee was taken before the commencement of the study (No.MC/233/2013/13).

RESULTS

Around 292 students from medical group and 284 students from non-medical group completed the questionnaire. In the medical group, 172 (59.07%) were male and 120 (40.93%) were female respondents. In the non-medical group, 148 (52.21%) and 136 (47.79%) were male and female respondents, respectively. Age (mean±standard deviation) was 21.5±1.30 and 22.7±2.21 for medical and non-medical students, respectively. 67% of the total respondents practiced self-medication, of which, 207 (71%) were medical undergraduate students and 179 (63%) were non-medical undergraduate students which was statistically significant ($p<0.05$) (Table 1).

In Table 2, It is seen that analgesics (72%) and antipyretics (67%), and drugs for gastritis (64.5%) were the most common classes of drugs used for self-medication by the medical students. For the non-medical students, the most common drugs for self-medication are analgesics (68%), antipyretics (62%), and cough remedies (5%). The results are not found to be statistically significant.

In Table 3, it is seen that the most common source of information for medical students is textbooks (67.5%), physician or pharmacists (66%), and old prescriptions (61%). For non medical students, the most common source of information for self medication are pharmacies (68%), previous prescriptions (66%) and from friends and family (59.2%). It is seen that medical students (54.1%) follow the package inserts in comparison to non medical students (24.3%) which was statistically significant. Also, textbooks as source of information to medical students (67.5%) which when compared to non medical students (18%) was found to be statistically significant.

In Table 4, it is shown that 132 (64%) medical students prefer allopathic system of medicine as compared to 64 (36%) non-medical students. On the other hand, 84 (47%) non-medical students preferred ayurvedic system of medicine in comparison to 50 (24%) medical students. The results were found to be statistically significant ($p<0.0001$). 85% of the non-medical students do not know whether practicing self-medication is correct or not.

In Table 5, it is shown that both medical and non-medical students considered the illness as minor (69% vs. 61%, $p<0.01$) and attainment of quick relief of symptoms (64.2% vs. 57%, $p<0.05$) to be the most important reasons for self-medication. Awareness constitutes 56.89% in medical and 32% in non-medical students which was statistically significant ($p<0.0001$). Other reasons cited were lack of time, financial constraints, and non-availability of health-care facilities in the nearby areas.

In Table 6, it is shown that 95 (46%) of the students complete the full treatment in comparison to 57 (32%) non-medical students. Drug use also showed on and off pattern (33% medical students vs. 63% in non-medical students) with stoppage of the drug on the appearance of adverse symptoms (21% of medical students versus 5% of non-medical students).

DISCUSSION

In the present study, 67.01% of the total respondents reported self-medication. 71% of medical students and 63% of non-medical students practiced self-medication. The prevalence of self-medication in non-

Table 1: Practice of self-medication, age, and gender distribution in medical and non-medical undergraduate students (Number of respondents: Medical-292, non-medical-284)

Variable	Medical	Non-medical
Age (mean±SD)	21.5±1.30	22.7±2.21
Gender		
Male (%)	172 (59.07)	148 (52.21)
Female (%)	120 (40.93)	136 (47.79)

Self-medication	Yes	No	
Medical (%)	207 (71)	85 (29.1)	*
Non-medical (%)	179 (63)	105 (36.97)	

*p<0.05-statistically significant, SD: Standard deviation

Table 2: Categories of drugs used for self-medication (Number of respondents: Medical-292, Non-medical-284)

Category of drugs	Medical (207) (%)	Non-medical (179) (%)
Analgesics	149 (72)	122 (68)
Antipyretics	139 (67)	110 (62)
Cough suppressants/expectorants	124 (60.1)	105 (59)
Heart burn/gastritis	134 (64.5)	99 (55.2)
Vitamins	130 (63)	88 (49)
Antibiotics	158 (57)	70 (39)
Topical applications (Cream, ointments, powder, etc.)	126 (61)	82 (46)

Table 3: Sources of information regarding self-medication (Number of respondents: Medical-292, non-medical-284)

Source of information	Medical (%)	Non-medical (%)
Old prescriptions	126 (61)	118 (66)
Physician/pharmacist	137 (66)	122 (68)
Friends and family	66 (32)	106 (59.2)
Package inserts	112 (54.1)	43 (24.3)***
TV/internet	99 (48)	93 (52.2)
Text books	140 (67.5)	32 (18)***
Newspapers	8 (4)	12 (7)
Hoardings, advertisements	27 (13)	69 (39)

***p<0.0001, statistically significant. TV: Television

Table 4: Type of medicine: (Number of respondents: Medical-292, non-medical-284)

Medicine	Medical (%)	Non-medical (%)
Allopathic	132 (64)	64 (36)***
Ayurvedic	50 (24)	84 (47)***
Homeopathic	21 (10)	21 (12)
Others	4 (2)	9 (5)

***p<0.0001, statistically significant

Table 5: Reasons for not consulting a doctor (Number of respondents: Medical-292, non-medical-284)

Reasons	Medical (%)	Non-medical (%)
Minor illness	143 (69)	109 (61)**
Lack of time	118 (57)	93 (52.4)
Quick relief	132 (64.2)	102 (57%)*
Awareness	118 (56.89)	57 (32)***
Health-care facilities not situated nearby	48 (23)	61 (34.3)
Financial constraints	39 (19.3)	77 (44.02)

*p<0.05, **p<0.01, ***p<0.0001

Table 6: Duration of treatment (Number of respondents: Medical-292, non-medical-284)

Duration	Medical (%)	Non-medical (%)
Complete the full course	95 (46)	57 (32)
Take the drug on and off	69 (33)	113 (63)
Stop the drugs when the symptoms disappear	43 (21)	9 (5)

medical students also shows a wide variation, ranging from 56.90% [11] to 98% [12]. Even in the general population, a wide variation in the prevalence of self-medication ranging from 12.7% in Spain [13], 59% in Nepal [3] to 95% in Harare [14] has been reported. In our study, self-medication among medical and non-medical students was statistically significant.

The most common drugs for self-medication were analgesics and antipyretics. Antibiotics were used mainly by medical students which may be due to their knowledge of medical science. This has implications because of the problem of antibiotic resistance if used without proper consultation. Some studies had reported a higher use of antimicrobials (46%) when the subject was a health-care person [15]. Use of antimicrobials medication is higher only in countries where these drugs are freely available OTC as observed in the present study as well as in other studies [15,16]. Thus, it is once again observed that use of antimicrobials is always high when there is lack of implementation of proper regulatory control over the OTC sale of these drugs, and the only measure that can be effective in tackling this problem would be enforcement of strict regulations and severe penalties for defaulters. In our study, it is observed that painful conditions such as headache, body ache, etc., and fever are the most common conditions for self-medication both in medical and non-medical students. In a recent study conducted in Karnataka, it was seen that fever (78.9%) and headache (57.9%) were the most common illnesses for self-medication by students [17].

The major information source for most of the medical students who practiced self-medication was reading material. Medical students follow the package inserts in comparison to the non-medical students. Results correlated with some other studies done in different countries [18].

Medical students prefer the allopathic system of medicine which can again be attributed to their medical knowledge. Non-medical students are more inclined toward the ayurvedic system of medicine which may be due to their belief in traditional system of medicine, advice from their family and friends or lack of potential adverse effects which is often seen with allopathic medicines.

Both medical and non-medical students considered non-severity of illnesses and quick relief from symptoms as the major reasons for self-medication. Another study findings also revealed that even in the general population the main reasons for the self-medication is time-saving and then economical, doing away with the need to go to a doctor for minor illness and providing quick, easy, and convenient relief [19]. However, awareness about self-medication is significantly more in medical students in comparison to non-medical students.

Medical students preferred completion of the course of medicine, whereas non-medical students practiced self-medication in an on and off pattern. This may be attributed to the detailed knowledge about the course of disease and the medications by the medical students.

Most common indications for the practice of self-medication are painful conditions such as headache, body ache, toothache, etc., fever, gastrointestinal upsets, cough, and cold. The result of the present study supported the impact of medical education and knowledge on self-medication practice.

CONCLUSION

Self-medication was practiced by both the undergraduate medical and non-medical students of Guwahati city. The practice of self-medication is quite inevitable, and it has both advantages and disadvantages. Correct and proper use of medicines may contribute to a great extent in health care, whereas inadvertent and improper use may lead to drug resistance, adverse effects, drug abuse, etc. However, for the correct knowledge, attitude, and practice, the drug authorities and health professionals should educate the common masses about the pros and cons of self-medication.

REFERENCES

1. World Health Organization (WHO). Role of Pharmacists in Self Care and Self-Medication. The Fourth Consultative Group Meetings on the Role of the Pharmacist in the Health Care System Organized by WHO in Collaboration with the International Pharmaceutical Federation (FIP). Hague: 1998. p. 2-11.
2. The International Pharmaceutical Federation and World Self-medication Industry (FIP/WSMI). Responsible Self-medication; 2002.
3. Shankar PR, Partha P, Sheno N. Self-medication and non-doctor prescription practice in Pokhara valley, Western Nepal: A questionnaire based study. BMC Fam Pract 2002;3:17.
4. Hughes CM, McElnay JC, Fleming GF. Benefits and risks of self-medication. Drug Saf 2001;24(14):1027-37.
5. Alano GM, Galafassil LM, Galato D, Trauthman SC. Responsible for self medication review of the process of pharmaceutical attendance. Braz J Pharm Sci 2009;45(4):626-33.
6. 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.
7. Habeeb GE Jr, Gearhart JG. Common patient symptoms: Patterns of self-treatment and prevention. J Miss State Med Assoc 1993;34(6):179-81.
8. Worku S, G Mariam A. Practice of self-medication in Jimma town. Ethiop J Health Dev 2003;17(2):111-6.
9. World Health Organization. The Role of the Pharmacist in Self-care and Self-medication. Report of the 4th WHO Consultative Group on the Role of Pharmacist in Healthcare System; 1998. Available from: http://www.who.int/medicines/library/dap/who-dap-98-13/who-dap-98-13.pdf. [Last accessed on 2016 Jul 18].
10. World Health Organization. Report of the WHO Expert Committee on National Drug Policies; 1995. Available from: http://www.who.int/medicines/library/dap/who-dap-95-9/who-dap-95-9 html. [Last accessed on 2016 Jul 18].
11. Sawalha AF. A descriptive study of self-medication practices among Palestinian medical and nonmedical university students. Res Social Adm Pharm 2008;4(2):164-72.
12. Figueiras A, Caamaño F, Gestal-Otero JJ. Sociodemographic factors related to self-medication in Spain. Eur J Epidemiol 2000;16(1):19-26.
13. James H, Handu SS, Khaja KA, Sequeira RP. Influence of medical training on self-medication by students. Int J Clin Pharmacol Ther 2008;46(1):23-9.
14. Kasilo OJ, Nhachi CF, Mutangadura EF. Epidemiology of household medications in urban Gweru and Harare. Cent Afr J Med 1991;37(6):167-71.
15. Aljinovic-Vucic V, Trkulja V, Lackovic 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.
16. Zafar SN, Syed R, Waqar S, Zubairi AJ, Vaqar T, Shaikh M, *et al*. Self-medication amongst university students of Karachi: Prevalence, knowledge and attitudes. J Pak Med Assoc 2008;58(4):214-7.
17. Johnson D, Hima SS, Teena A, Kumaraswamy M, Chopra RS. Self

medication practice among medical, pharmacy and nursing students. Int J Pharm Pharm Sci 2016;8(7):443-7.

18. 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.
19. Saharan VD, Pandey MS. A study of prevalance of self-medication practice among people of mumbai. Int J Pharm Pharm Sci 2015;7(7):253-6.