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Original Research Article

An evaluation of self medication among undergraduate medical students of a rural medical school from western Uttar Pradesh

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Abstract

Background: Common problems related to self medication are wastage of resources and increasing antimicrobial resistance. They generally entail serious health hazards such as adverse reaction and prolonged suffering.

Aim: The study aimed to analyze the pattern, factors influencing and potential adverse effects of self-medication among the undergraduate medical students.

Material and methods: The present cross sectional study was carried out by the Department of Pharmacology, MSDS Medical College, Fatehgarh among the undergraduate students currently

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studying in a rural medical school from western Uttar Pradesh. A 25 item self administered questionnaire was administered to the students in the classrooms just after completion of classes. Time allocated for the completion of the questionnaire was 30 minutes. After compilation of collected data, analysis was done using Statistical Package for Social Sciences, version 21 (IBM, Chicago, USA).

Results: Data of 256 study subjects was analyzed. Overall prevalence of self medication among study subjects was found to be 71.5% (87.6% among males and 50.5% among females). 82.5% had trust in allopathic medicine system. 81.5% students learnt self medication from doctors prescriptions provided during their prior illness. Regarding categories of drugs commonly self-prescribed, they commonly used antipyretics (81.4%), anti-tussives (72.1%) and analgesics (68.9%). 'Illness too trivial for consultation' was the most common (71%) reason for self-medication cited by them. Almost 69% of them were aware of possible adverse effects. 7.7% of them even experienced the side effects of self-medication.

Conclusion: The study highlighted growing trend of self-medication among medical students. Policies prohibiting the supply of medicines without a valid prescription should be enforced strictly. A robust monitoring system among the physicians and pharmacists is need of an hour.

Key words

Self medication, Medical students, Pharmacist, Drug.

Introduction

According to William Osler, a great feature which distinguishes man from animals is the desire to take medicine [1]. As per the World Health Organization, 'Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms [2].' The International Pharmaceutical Federation defines self-medication as the use of non-prescription medicines by people on their own initiative [3]. Self-medication is defined as obtaining and consuming drugs without the advice of a physician for diagnosis, prescription or surveillance of treatment [4].

Major problems related to self medication are wastage of resources, increasing antimicrobial resistance, and generally entails serious health hazards such as adverse reaction and prolonged suffering [5]. Antimicrobial resistance is a current problem worldwide particularly in developing countries where antibiotics are often available without a prescription [6]. Self-medication differs from self-care in that it involves drugs that may do good or cause harm [7]. Inappropriate self-medication causes wastage of resources, increases resistance of pathogens and generally causes serious health hazards such as adverse drug reactions, prolonged suffering and drug dependence [8].

Only a very few studies have been conducted on problem of self medication among undergraduate medical students and none from the western Uttar Pradesh. According to best of our knowledge this problem of self medication among undergraduate medical students has not been closely investigated by pharmacology fraternity in growing MSDS Medical College. MSDS Medical College was established in rural outskirt of Fatehgarh. The first batch of students commenced its academic session in July 2011. So this growing institution provided us a perfect base to plan and execute this study. The present study was therefore planned to analyze the pattern and factors influencing self-medication among medical students. An additional objective

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was to study potential adverse effects of self-medication.

Materials and methods

The current survey was planned and executed by the department of Pharmacology, MSDS Medical College, Fatehgarh among undergraduate medical students.

Study area: MSDS Medical College, Fatehgarh
Study Population: Undergraduate students currently studying in the institution.
Study design: Cross-sectional study
Study period: March-October 2014
Sample size: All the undergraduate students currently studying in the institution.
Study tool: 25 item self administered questionnaire.

Study strategy

The questionnaire was distributed to the students in the classrooms just after completion of classes by the principal investigator and co-investigator themselves following a brief explanation of the objectives and data processing procedures, including anonymity and the importance of voluntary-based participation. Meaning of a few terms was explained to the students prior to administration of study tool (certain medical terms were explained to the first-year students, including dysmenorrhea, antipyretics and analgesics). The time allocated for the completion of the questionnaire was 30 minutes. It was also explained that the data would be used for quality assurance, as well as, for research purpose with a request for their co-operation. Attempts will be made to contact every student however those students who could not be contacted after three attempts were excluded from the study. Permission of Institutional ethics committee (IEC) was sought before the commencement of the study. Informed consent was obtained from the study participants.

All the questionnaires were manually checked and edited for completeness and consistency and were then coded for computer entry. After compilation of collected data, analysis was done using Statistical Package for Social Sciences (SPSS), version 21 (IBM, Chicago, USA). The results were expressed using appropriate statistical variables.

Results

Baseline characteristics of participants

Out of a total 400 students, 282 completed and returned the questionnaires giving an overall response rate of 70.5%. Twenty six performas were found to be incomplete hence discarded. So finally data of 256 students was considered for analysis. 145 (56.6%) of the respondents were male while 111 (43.4%) were female. The mean age of study subjects was 21.12 with a standard deviation of 1.84.

Prevalence of self medication

A total of 127 (87.6%) male participants and 56 (50.5%) female participants said they practiced self-medication. Overall prevalence of self medication among study subjects was found to be 71.5%.

Trust and faith in medicine system

Majority of the students had a trust in allopathic medicine system (82.5%) in which they are being groomed up. (**Table - 1**)

Sources of information about drugs used by study subjects

81.5% students learnt self medication from doctors prescriptions provided during their prior illness. Friends, pharmacist, advertisements and books comprised 35.6%, 30.2%, 25.2%, 6.0% respectively, which guided students for self medication. (**Table - 2**)

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Pattern of self medication

Regarding categories of drugs commonly self-prescribed, they commonly used antipyretics (81.4%), antitussives (72.1%) and analgesics (68.9%). Illness too trivial for consultation was the most common (71%) reason for self-medication cited by them. Almost 69% of them were aware of possible adverse effects. 7.7% of them even experienced the side effects of self-medication. (**Table - 3**)

Discussion

Self-medication involves acquiring medicines without a prescription, resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home. Self-medication thus forms an integral part of self-care, which can be defined as the primary public health resource in the health care system. It includes self-medication, non-drug self-treatment, social support in illness, and first aid in everyday life. Medical students have easy access to information from drug indices, literature, and other medical students to self-diagnose and self-medicate. This could lead to increased likelihood of self-medication among medical students [9]. This can expose the subjects to all the risks associated with inappropriate use of medications.

The prevalence of self-medication in our study was found to be 71.5%. In studies conducted within India, the prevalence of self-medication among the medical students was shown to be ranging between 57.1% and 92% [9-11]. Other studies on Indian students from non-medical background showed a prevalence of 80.1% in Tamil Nadu [11] and 87% in Uttar Pradesh [12]. In our study it was found that more male students (87.6%) practice self-medication than female students (50.5%). This differs from a previous study conducted among medical students, which showed a greater prevalence among female students (45%) than male students (44%) [9].

The majority of the study participants followed allopathic system of medicine which is similar to the observations made in other studies from India [9, 11]. In our study the most common reason for self-medication reported by a large number of participants was the illness being too trivial. Similar observations were reported in a few studies from India [10, 11]. However, in a study from Tamil Nadu [11] most students practiced self-medication as it was time saving, whereas in Punjab [13] the most common reason for self-medication was for quick relief. Antipyretics were the most common class of drugs self-medicated by majority of the participants in our study. Similar observations were made in a study from South India [9].

There is always a risk of using expired drugs, sharing them with friends or taking medicine that have been originally prescribed for some other problem. Irrational use of drugs may result in accidental drug poisoning. Other problems related to self-medication are wastage of resources and serious health hazards such as drug dependence, adverse reaction and prolonged suffering. Antimicrobial resistance is another problem worldwide particularly in developing countries where antibiotics are often available without a prescription [6].

With respect to categories of drugs commonly self-prescribed, in this study it was noticed that the classes of drugs that were commonly used were antipyretics (81%) and analgesics (69%). We have found, however, that 31.7% of the medical students are not afraid of using drugs with potentially harmful adverse effects and potential for addiction and abuse, i.e. sleeping pills, steroids and stimulants. These drugs may not be as easily available to the general population as they are to medical students, who

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can obtain them by virtue of their profession, and previous studies have reported higher use of antimicrobials when the study participant was a healthcare professional [14].

This study has several strengths. First, we have studied pattern and factors influencing and potential adverse effects of self-medication among medical students. In-depth analysis of this aspect has not been closely investigated by many experts in the field. Second, all the interviews were conducted by authors of the study only, which creates a sense of uniformity. The study has some limitations as well. Some may argue that the results obtained may not be applicable to all the medical students. I agree because these findings are based on a single centre study from a western Uttar Pradesh. More multicentric studies need to be carried out among medical students and general population at large to identify the various factors influencing the practice of self-medication in India. Second, such studies are always susceptible to recall bias.

Conclusion

The study highlighted the growing trend of self-medication among medical students. Policies prohibiting the supply of medicines without a valid prescription should be enforced strictly. The students should be educated and made aware about the dangers and implications of self-medication. Steps should also be taken to educate pharmacists on the need to cross-check with the prescribing physician while dispensing such drugs. A robust monitoring system among the physicians and pharmacists is need of an hour.

References

1. Balamurugan E, Ganesh K. Prevalence and pattern of self-medication use in coastal regions of South India. BJMP, 2011; 4(3): a428.
2. The Role of the Pharmacist in Self-Care and Self-Medication. Available: http://apps.who.int/medicinedocs/pdf/whozip32e/whozip32e.pdf Accessed: 2014 Dec 28.
3. Joint Statement by the International Pharmaceutical Federation and The World Self-Medication Industry. Available: http://www.fip.org/www/uploads/database_file.php?id=241&table_id. Accessed: 2014 Dec 28.
4. Shankar PR, Partha P, Shenoy N. Self-medication and nondoctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. BMC Fam Pract., 2002; 3: 17.
5. Montastruc JL, Bagheri H, Geraud T, Lapeyre Mestre M. Pharmacovigilance of self-medication. Therapie, 1997; 52: 105–110.
6. Pagane JA, Ross S, Yaw J, Polsky D. Self medication and health insurance coverage in Mexico. Health Policy, 2007; 75: 170-177.
7. James H, Handu SS, Khalid AJ, Khaja A, Otoom S, Sequeira RP. Evaluation of the knowledge, attitude and practice of self-medication among first-year medical students. Med Princ Pract., 2006; 15: 270–275.
8. Martins AP, Miranda AC, Mendes Z, Soares MA, Ferreira P, Nogueria A. Self medication in a Portuguese urban population: A prevalence study. Pharmacoepidemial Drug Saf, 2002; 11: 409-414.
9. Badiger S, Kundapur R, Jain A, Kumar A, Patanashetty S, Thakolkaran N, Bhat, Ullal N. Self medication patterns among medical students in South India. AMJ, 2012, 5(4): 217-220.

ISSN: 2394-0026 (P)
ISSN: 2394-0034 (O)

10. 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.
11. 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.
12. 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.
13. Gupta V, Bansal P, Manhas R, Singh Z, Ghaiye P. Preferred system of medicine and reasons of self-medication among college students in Malwa region of Punjab. J Drug Deliv and Ther, 2011; 1(2): 27–29.
14. Buke C, Hosgor-Limoncu M, Ermertcan S, Ciceklioglu M, Tuncel M, et al. Irrational use of antibiotics among university students. J Infect, 2005; 51(2): 135–139.

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Table - 1: Trust and faith of medical students in medicine system

System of medicine	Percentage of respondents
Allopathic medicine	82.5%
Ayurvedic medicine	4.8%
Homeopathic medicine	12.2%
Unani medicine	0.5%

Table - 2: Sources of information about drugs used for self medication.

Sources of information*	%age of respondents
Doctors (from prior illness)	81.5%
Friends	35.6%
Advertisements	25.2%
Pharmacists	30.2%
Books	6.0%
*Multiple responses permitted	

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Table - 3: Pattern of self medication by the study subjects.

Characteristics	Responses (N=183)	
	No. of students	%
Categories of drugs commonly self-prescribed*		
Antipyretics	149	81.4
Antitussives	132	72.1
Analgesics	126	68.9
Antihistamines	120	65.6
Antibiotics	97	53.0
Tonics/Vitamins	81	44.3
Antidiarrhoel	74	40.4
Antiemetics	53	28.9
Antispasmodic	44	24.0
Antiulcer	27	14.8
Sedatives	18	09.8
Reasons for self-medication*		
Lack of time to consult doctor	21	11.5
Illness too trivial for consultation	130	71.0
Privacy	11	6.01
Avoid crowd at OPD	25	13.7
Did not want to consult faculty/peers	10	5.5
Finished pharmacology, have confidence	17	9.3
Awareness of adverse effects		
Yes	125	68.3
No	58	31.7
Adverse reactions as perceived by study subjects		
Experienced	14	7.7
Not experienced	169	92.3
*Multiple responses permitted		