ORIGINAL RESEARCH ARTICLE

Evaluation of Self Medication Pattern among undergraduate students in South India

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ABSTRACT

Self medication can be defined as the use of medication by a patient of his own initiative or on the advice of a pharmacist or a lay person instead of consulting a medical practitioner. Self medication is common in developing countries. Knowledge of self medication is more important among medical students as they are the future prescribers. The World Health Organization has emphasized that self medication must be correctly taught and controlled. This was a cross-sectional study in which a self-developed questionnaire related to various aspects of self-medication was used. Study population consisted of students who have completed 6 months of internship. A total of 239 students were given a questionnaire, out of which 220 completed the questionnaire. 82% of the students said they had self medicated in the last one year. Allopathic was the preferred system of medicine, 54% obtained the information from previous prescription. The most common reason for self medication did not spend money on doctors' fees (42.3%), the majority of the students (62.1%) opined that an adverse drug reaction is the major disadvantage. The four most common symptoms for which self medication was taken were fever (68.4%), headache (54.5%), cold/cough (48.2%) and musculoskeletal pain (40.2%). The prevailing self-medication practices were inappropriate in a substantial proportion of medical students with inadequate knowledge regarding appropriate drug choice, duration of treatment doses, and side effects. There is a need for rational educational interventions related to self-medication.

Keywords: Self-medication, Over the Counter (OTC) Drugs, Rational Use, Medication Knowledge.

INTRODUCTION

Self medication can be defined in simple words as the use of medicine with therapeutic intent but

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without professional advice.[1, 2] Self-medication is widespread around the world. The prevalence rates are high all over the world with 68% in European countries, while much higher rates are seen in the developing countries going as high as 92% in the adolescents.[3, 4] In developing countries like India, easy availability of a wide range of drugs coupled with inadequate health services result in increased proportions of drugs used as self medication compared to prescribed drugs.[5]

Self medication has some advantages if practiced appropriately, self-medication can relieve simple medical problems without waiting to see a doctor, can be economical. It is also accepted that responsible self-medication for self-care could be beneficial to healthcare providers, pharmaceutical

industries, governments and patients.[6] But inappropriate self medication results in an increase in expenditure, increases the emergence of drug resistance, increased adverse drug reactions which sometimes may be serious and prolonged morbidity.[7] The two important factors in determining the attitudes toward and the consumption of medications are self-care orientation and medication knowledge.[8]

The present study was undertaken with the following objectives

1) To describe self-medication practices among medical students,

2) To identify potential factors, drug information resources that are associated with self-medication practices

3) To identify reasons for self-medication practices.

MATERIAL AND METHODS

This was a cross-sectional questionnaire-based study conducted at two medical colleges in south India, in January 2013. Prior approval was taken from the Institutional Ethics Committee to conduct the study. Participants were explained the purpose of study and were requested to complete and return the questionnaire immediately.

The selected respondents were those who have completed at least 6 months of internship and who had taken self medication in the last one year. More than one answer was allowed in some questions. The questionnaire was pre-tested in junior faculty and was suitably modified before administering to the respondents. The information was recorded and analyzed using Microsoft Excel (2007 version).

RESULTS

A total of 239 students were given a questionnaire, out of which 220 completed the questionnaire.

82% of the students said they had self medicated in the last one year. Most of the students had trust in allopathic medicine (80.6%), followed by Ayurvedic, homeopathic and Unani as shown in table 1.

Table 1: Trust in medicine system

Medicine system	Respondents %
Allopathic	80.6
Ayurvedic	11.7
Homeopathic	6.3
Unani	1.4

Source of drug information

The majority of the students (54%) obtained the information from a previous prescription, followed by obtaining directly from the pharmacist (21.4%). The rest of the information was obtained from friends, textbooks, relatives as shown in table 2.

Table 2: Source of information about drugs

Source	Respondents %
Doctors (from prior illness)	54
Friends	12.7
Textbooks	7.7
Pharmacists	21.4
Advertisements	2.7
Internet	1.5

Reasons for self medication

The most common reason for self medication did not spend money on doctors' fees (42.3%), followed by illness not considered serious (19.4), for obtaining quick relief (12.3). Other factors are shown in table 3

Table 3: Reasons for self medication

Reason	Respondents %
Don't want to spend money on doctor's fees	42.3
Lack of time to visit doctors	10.4
Quick relief	12.3
Can't afford doctor's fees	7.2
Illness considered not serious for a consultation	19.4
Prior experience of use	8.4

Disadvantages of self-medication

The majority of the students (62.1%) opined that an adverse drug reaction is the major disadvantage, followed by Lack of knowledge about dose and frequency of administration (18.5%). Other disadvantages are listed in table 4.

Table 4: Disadvantages of self-medication

Reason	Respondents %
ADRs	62.1
Lack of knowledge about dose, Frequency of administration	18.5
Wrong medication	7.8
Disease aggravation	5.5
Masking of underlying disease	4.6
Drug interactions	3
Don't know	1.47

ADRs =adverse drug reaction

Factors related to duration of self-medication

Most of the students (68.4%) took the drug till symptoms subsided, followed by completion of course (14.4%), Development of ADR (10.2%), and no improvement and doctor was consulted (8%) as shown in table 5.

Table 5: Factors which decided duration of self-medication

Factor	Respondents %
Till the completion of course	14.4
Till symptoms subsided	68.4
Development of ADR	10.2
No improvement and doctor were consulted	8

Common symptoms of self-medication

The four most common symptoms for which self medication was taken were fever (68.4%), headache (54.5%), cold/cough (48.2%) and musculoskeletal pain (40.2%). Other symptoms are listed in table 6.

Table 6: Common symptoms of self-medication

Symptom	Respondents %
Headaches	54.5
Fever	68.4
Cold/cough	48.2
Throat inflammations/infections	36.3
Musculoskeletal pain	40.2
Vomiting	9.5
Diarrhea	12.2
Allergies	27.5
Menstrual cramps	24.4
Anxiety/lack of sleep	6.8
Others	5.4

Common drug/drug groups used for self-medication

The four most common drugs/drug groups taken were paracetamol (47.4%), analgesics (32%) (Nonsteroidal anti-inflammatory drugs), cough suppressants (28.5%) and decongestants (18.4%). Other drugs are listed in table 7.

Table 7: Common drug/drug groups used for self-medication

Drug/drug groups	Respondents %
Paracetamol	47.4
Cough suppressants	28.5
Analgesics	32
Antacids	14.2
Anti emetics	10.4

Multivitamins	6.4
Antibiotics	15.3
Sedatives	3.6
Decongestants	18.4
Laxatives/Antidiarrheal Agent	11.2
Antiallergic	17.2
Antimalarials	2.3
Ear/Eye drops	3.7
Others	2.2

DISCUSSION

In the present study, 82% of the medical students had taken self medication in last one year. Various studies have been conducted all over the world and the practice of self-medication among medical as well as non-medical students is quite high. A recent study[9] has reported higher prevalence of self medication in senior medical students (73.3%) compared to their juniors (52.6%) . The prevalence of self-medication is expected to be higher in interns as they are exposed to the patient, drugs, disease and have greater knowledge of the medication.

A recent study conducted in India reported 79.31% of the final year students taking self medication.[10] Another study from India which was conducted by Allopathic doctors 53% doctors practicing self-medication.[11] Similar results were also reported another study where medical students of 4th year practiced self-medication more often than those of 2nd year.[12] But in a study conducted in Nagpur[7] the prevalence of self-medication among junior and senior medical students did not differ significantly.

The most common morbidity was fever and headache followed by cold/cough as shown in table

6. This is contrast to a recent study[10] done in India which reported, the most common reason was cold/cough, followed by fever and headache. The study also found that most common drug/drug group used was antibiotics followed by analgesics, and antipyretics. Whereas in the present study most common drugs used were paracetamol (47.4%), analgesics (32%) a, cough suppressants (28.5%) are shown in table 7.

Regarding reasons for self-medication, most students did not want to waste money on doctors' fees, and the next reason was the mild nature of illness as shown in table 3. These results are again contradictory to the recent study conducted in India.[10] This shows that it is difficult to compare the results in different populations mainly due to the different methods used to find the prevalence of self-medication and also due different socioeconomic profiles and demographic characteristics.

WHO is promoting the practice of self-medication for effective and quick relief of symptoms without medical consultations to reduce burden on health care services, which are often understaffed and inaccessible in rural and remote areas of the

developing world.[13] Self-treatment is strongly embedded within the culture of both physicians and medical students as an accepted way to enhance work performance and these complex self-directed care behaviours could be regarded as an occupational hazard of the medical profession.[14] However, the WHO stresses that self-medication can only be used in countries that are able to provide adequate health care and education, and thus empower citizens to self-medicate responsibly.[15]

Another concern is about drug resistance particularly to antibiotics has been widely reported leading the WHO to call attention to the dangers of self medication as a cause of antibiotic resistance[16-18], the recent example being the Metallo-beta-lactamase-1.[19] It is not that the self medication is the cause of antibiotic resistance but it may contribute to some extent.

There is a certain amount of hesitation in consulting professional colleagues when they need medical help due to complex reasons including ego and a busy professional work pattern.[11] The present study is unique as it was carried out in medical interns, who immediately after finishing will be the future practitioners. A holistic approach must be taken to prevent self medication from escalating, educational interventions especially regarding to some drug/drug groups like antibiotics, sedatives should be done regularly in medical colleges as well as in the community.

Limitations of the study

The limitation of the present study is that we did not use a comparison group, such as engineering students or other medical students from the 2nd or 3rd year, so that we could have carried out a statistical analysis between the groups. Also the sample size was sampled in the present study. Future further multicentre studies should be done with large sample size including both undergraduate and postgraduate should be done.

CONCLUSION

The prevailing self-medication practices were inappropriate in a substantial proportion of medical students with inadequate knowledge regarding appropriate drug choice, duration of treatment doses, and side effects. Self-medication should be considered as a serious problem, especially among young population and educational intervention measures need to be implemented, especially the teaching of clinical pharmacology to include modules on self- medication and rational use of drugs to improve the knowledge of self medication.

Conflict of interest: None

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