Assessment of Self-Medication Practices Among Undergraduate Medical Students at A Tertiary Care Teaching Hospital, Karnataka

Medical Science

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ABSTRACT

Objective: To study the prevalence and pattern on usage of self-medication among undergraduate medical students in a Medical college teaching hospital.

Materials and methods: Cross sectional, descriptive, questionnaire-based study carried out among under graduate medical students in a medical college teaching hospital, Mandya, Karnataka. A total of 356 students participated in the study. They were asked to fill-up the structured questionnaire with a recall of 3 month period related to self medication.

Results: Out of total 356 students, 159 (44.6%) reported self medication during last 3 months. 52.2% among them were females and 47.7% were males. The frequently reported illness that prompted self medication included fever (42.7%), common cold (37.1%), headache (14.4%) and body pain (6.9%). Most commonly self medicated drug groups were NSAIDs (67.2%), antihistaminics (40.2%), antibiotics (13.2%) and antacids (6.9%). The reasons for favouring self-medication were milder illness (72.3%), time saving (22.6%) and quick relief (17.6%). Prior knowledge of dose, duration of therapy, side effects and interactions was there among 74.8%, 64.1%, 63.5% and 37.1% students respectively. 4.4% of self medicated students experienced adverse effects.

Conclusions: Medical students are practising self medication disregarding the adverse effects/interactions of the drugs. They are to be educated on the type of illness to self diagnose and medicate and also regarding dangers of self medication

INTRODUCTION

Self-medication is defined as obtaining and consuming drugs without the advice of a physician either for diagnosis, treatment or monitoring.[1] It is a component of self care and it is considered as primary public health resource in health care system.[2] Self-medication is widely practised in both developed and developing countries, being more common in the latter.[3-4]

Medicines for self-medication are called non-prescription medicines or "Over the Counter" (OTC) medicines.[4] Although OTC drugs are efficacious and safe, their improper use without knowledge can lead to deleterious effects.[5] Hence appropriate health information regarding self-medication must be provided.[6]

Self-medication assumes a special significance among the medical students as they are the future medical practitioners and have a potential role in counselling patients about the advantages and disadvantages of self-medication. Also medical students more often prefer self-medication, than general population, since they are very much aware of diseases and drugs.[7]

This questionnaire based study was conducted to evaluate the prevalence and pattern of self-medication among undergraduate medical students in a Medical College Teaching Hospital.

MATERIALS AND METHODS

This cross-sectional, descriptive, questionnaire-based study was carried out among Undergraduate Medical students in a Medical college, Mandya, Karnataka, in the months of September and October 2013. The study was initiated after approval from the Institutional Ethics Committee.

All medical students (excluding interns) were included in the study. Informed consent was taken. The students were asked to fill-up the structured questionnaire with a recall of 3 month period, after explaining about the aim of study. Confidentiality of the information was assured.

The questionnaire included questions pertaining to demographic details, professional phases of the M.B.B.S. course, frequency of self medication during last 3 months, indications for self-medication, details of type and pattern of drug usage, sources of drug information used, use of psychotropic agents as self medication, reasons for favouring self-medication and knowledge of adverse effects of drugs used. The questionnaire was prepared in English language. The returned filled questionnaire was checked for completeness of the data and was analysed.

Statistical analysis

Data was entered into Microsoft Excel (Windows 7; Version 2007) and analyses were done using the Statistical Package for Social Sciences (SPSS) for Windows software (version 18.0; SPSS Inc, Chicago). Descriptive statistics such as frequencies and percentages were calculated for categorical variables. Mean and standard deviation (SD) were computed for continuous variables. Graphic representation is used for visual interpretation of the analyzed data.

RESULTS

A total of 356 students participated in the study. Among them, 171 (48.0%) were males and 185 (52.0%) were females. The mean age group in years was 20.17 ± 0.08 (Table 1).

Out of total 356 students, 159 (44.6%) reported self medication during previous 3 months of recall period. 52.2% among them were females and 47.7% were males. Among self-medicated students 52.2% were females and 47.7% were males. The prevalence of self-medication practices was highest among third year

(59.7%) and least among first year students (19.3%).

The percentage of patients suffering from long term medical condition was 10.1%. Migraine was the most common condition (19.4%), followed by allergic rhinitis (16.7%), hypothyroidism (8.3%), Polycystic Ovarian Syndrome- PCOS (5.5%) and others.

The frequently reported conditions that prompted self medication were fever (42.7%), common cold (37.1%), headache (14.4%) and body pain (6.9%) (Figure 1). Most commonly self medicated drug groups were NSAIDs (67.2%), antihistaminics (40.2%), antibiotics (13.2%) and antacids (6.9%) (Figure 2). Nasal decongestants (4.4%), multivitamin (3.8%), bronchodilators, mucolytics, antitussives, antiemetics (2.5% each), steroids, prokinetics and probiotics (1.25% each) were other less commonly used drug groups.

Most common reasons for favouring self-medication were milder illness (72.3%), time saving (22.6%), quick relief (17.6%) and others (Table 2). The important sources of information for self medication were previous prescription (53.5%), medical textbooks (26.4%), friends (18.2%) and parents/relatives (6.2%).

Prior knowledge of dose, duration of therapy, side effects and interactions was noted for 74.8%, 64.1%, 63.5% and 37.1% students respectively (Figure 3).

The percentage of students who experienced adverse effects with self medicated drugs was 4.4%. The adverse effects were milder, nausea/vomiting and diarrhoea (28.6% each) being most common.

One student gave history of use of amphetamine as self medication. Percentage of students using ayurvedic/homeopathic medicine for self medication was 14.0%.

DISCUSSION

The present study indicates that self-medication was widely practiced (44.7%) by the undergraduate medical students of the institute. The prevalence rate was lower on comparison with other studies.[8, 9] Females (52.2%) outnumbered males (47.7%) in practising self medication, likewise other studies.[7, 10]

A notable finding in our study was that final-year students (55.8%) practiced self-medication more frequently than first-year students (19.3%). This would be attributable to the increased knowledge about drugs and disease amongst senior medical students. The finding is in congruence with other studies.[7, 11] However a study conducted by Kumari R, et al revealed that first year students practised self medication more frequently.[12]

Regarding the morbidities which prompted for self medication, fever (42.7%) was the most common, followed by common cold (37.1%), headache (14.4%), body pain (6.9%) and others, often more than one condition. Most commonly self medicated drug groups were NSAIDs (67.2%), antihistamines (40.2%), antibiotics (13.2%) and antacids (6.9%).The results are in line with similar other studies.[13, 14]

Regarding reasons which provoked students for self-medication, mild nature of illness was the most common one (72.3%). This could be hazardous sometimes because of misdiagnosis and improper treatment. Other common reasons were time saving (22.6%), quick relief (17.6%) and self knowledge (8.8%). The results are comparable with other studies.[15, 16, 17]

Availability of previous prescriptions (53.5%), medical textbooks (26.4%), friends (18.2%), parents/relatives (6.2%) were the major sources for prompting self medication, as like other studies.[18, 19] Medical textbooks as significant source for self medication suggest that medical students rely more and more on the objective sources of information with progressive gain in knowledge about medicines.

About 60% of respondents were aware of the adverse affects associated with self-medication as compared to more than 90% in the study by Pandya RN, et al.[13] The percentage of students who experienced adverse effects with self medicated drugs was 4.4%, which is similar to results obtained in a study by Badiger S, et al.[20]

Self medication with psychotropic drugs is associated with high risk of incident substance use disorders and social phobia.[21] In our study only one student (0.2%) was self medicated with psychotropic medication, the drug being amphetamine. The prevalence is less compared to a study by Pandya RN, et al.[13]

Limitations

The study was based on self-reported data about self-medication in the preceding three months thus prone to recall bias. Mutual influence between the students during filling the questionnaire could not be entirely ruled out. A longer timeframe could have been considered.

CONCLUSIONS

Medical students are practising self medication disregarding the adverse effects/interactions of the drugs. The students are to be educated on the type of illness to self diagnose and medicate and also regarding dangers of self medication.

Table 1: Demographic profile of medical students (N=356)

Professional Year-MBBS	Respondents	Self-medicated in previous 3 months	Gender		Age (in years)
			Male	Female	
	No.	No. (%)	No. (%)	No. (%)	Mean ± SE
First	88	17 (19.3)	44 (50.0)	44 (50.0)	18.02 ± 0.08
Second	91	40 (43.9)	33 (36.3)	58 (63.7)	19.79 ± 0.06
Third	82	49 (59.7)	49 (59.7)	33 (40.3)	20.98 ± 0.08
Fourth	95	53 (55.8)	45 (47.4)	50 (52.6)	21.84 ± 0.06
TOTAL	**356**	**159 (44.7)**	**171 (48.0)**	**185 (52.0)**	**20.17 ± 0.08**

Table 2: Reasons and sources for favouring self medication

| Reason		Source	
Different reasons	No (%)	Different sources	No (%)
Milder illness	115 (72.3)	Previous prescription	85 (53.5)
Time saving	36 (22.6)	Medical textbooks	42 (26.4)
Quick relief	28 (17.6)	Friends	29 (18.2)
Self knowledge	14 (8.8)	Parents/Relatives	10 (6.2)
Cost effective	3 (1.9)	Chemists/Paramedics	5 (3.1)
Poor care in hospitals	2 (1.3)	Drug advertisements	2 (1.3)
Drug advertisement	2 (1.3)	Internet references	1 (0.6)
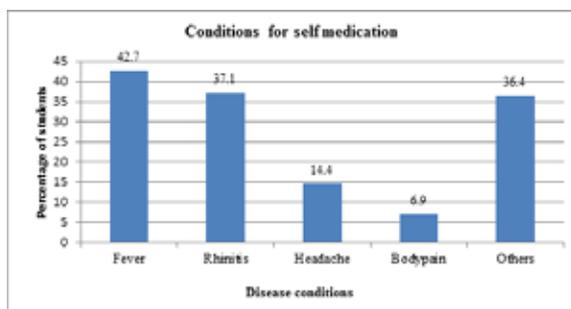
Figure 1: Conditions/Symptoms for self medication
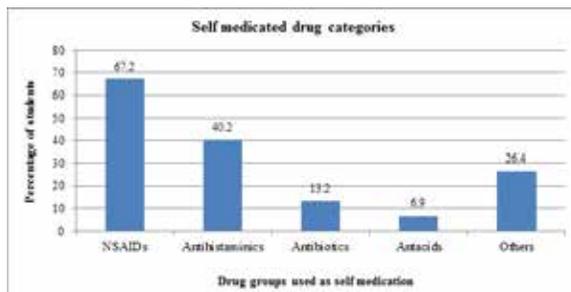

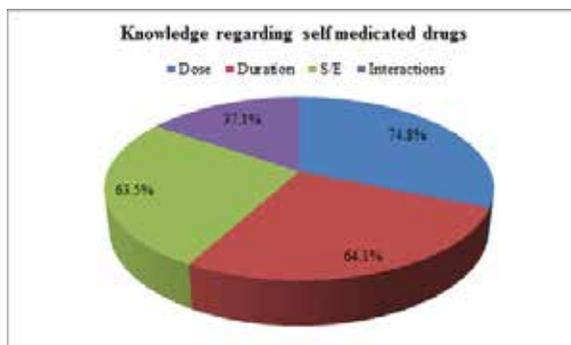**Figure 2: Drug categories used for self medication**

Figure 3: Knowledge regarding self medicated drugs among medical students

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