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A STUDY ON ASSESSMENT OF SELF MEDICATION PRACTICES AMONG UNDERGRADUATE MEDICAL STUDENTS OF GAUHATI MEDICAL COLLEGE

Community Medicine

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ABSTRACT

Introduction: Undergraduate medical students have knowledge of drugs and have a tendency to self-medicate.This study was done to assess the practice of self-medication among these medical students.

Methods: Three hundred medical undergraduates from different years of medical education in Gauhati Medical College were subjected to a validated questionnaire on history of practice of self-medication in last 6 months.

Results: Self medication was practiced by 73.3% students, with highest contribution(31.8%) by 4th year students.There was increase in practice in self-medication with increase in the year since medical admission ($p<0.0001$).Academic knowledge or textbooks were the most common references used.Reasons for self-medications were mild nature of illness,saving time,urgency and cost-effectiveness.

Conclusion: Self-medication is common in undergraduate medical students.

KEYWORDS

medical students, self-medication, fever.

Introduction

Self-medication empowers a patient to take decisions about managing minor ailments, without any professional involvement. Though advantageous, self-medication comes with important risks such as misdiagnosis, excessive or prolonged use of drugs, drug interactions, etc.1 When it comes physicians becoming patients, they have considerable knowledge about the medical conditions and required treatments. In case of an occurrence of disease, the physician often do self-medicate. Adequate medical knowledge is important under such conditions. The under graduate medical students are learning the medical approach and also depending on knowledge acquired from the books tend to self-diagnose and accordingly, self-medicate themselves. Their clinical experience may not be as good as a practicing physician. This is of concern and hence, it was decided to conduct a survey across these students to assess the practice of self-medication among them.

Materials and methods

This cross-sectional observational study was conducted at Gauhati Medical College and Hospital, Gauhati from 10th October to 9th November, 2017 in 300 undergraduate medical students.Seventy five students from each year since medical admission were included in the study. Written informed consent was obtained. The survey was not forced but voluntary for all students.

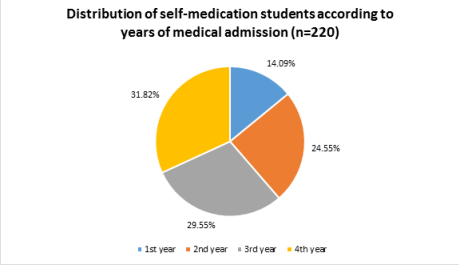
Basic details of students were noted. The survey was done according to a printed, semi-structured questionnaire which assessed the history of practice of self-medication in the last 6 months. The questionnaire contained 5 questions of both open and closed ended type. The questionnaire was pre-validated by 2 experts, with strong agreement ($\kappa>0.6$).

Data from the survey was entered and analyzed in a Microsoft excel sheet. Descriptive statistics were assessed and mentioned as frequencies and percentages. A chi square test was done to assess the association between categorical variables using Epitools online epidemiological calculators. A p value of <0.05 was considered significant.

Results

Among the 300 students, it was found that 73.3% (n=220) had practiced self-medication. Among the self-medicating students, highest proportion of such practice was noted in final year students, followed by 3rd year, 2nd year and 1st year (**Figure 1**).

Figure 1 Distribution of self-medication students according to years of medical admission (n=220)



A chi square test for trend demonstrated statistically significant association between the year since medical admission and proportion of students practicing self-medication (Chi square statistic = 61.5, df=3, $p<0.0001$). **(Table 1)** Thus, with increase in the year since medical admission, there is increase in the practice of self-medication among students.

Table 1Proportion of patients practicing self-medication in each year since medical admission

Year since medical admission	Students doing self-medication (n)	Students not doing self-medication (n)	Total students
1st	31	44	75
2nd	54	21	75
3rd	65	10	75
4th	70	5	75
Total	220	80	300

All students had done self-medication for allopathic drugs, while Ayurvedic and Homeopathic drugs were self-medicated by 26 (11.8%) and 7 (3.2%) students, respectively.

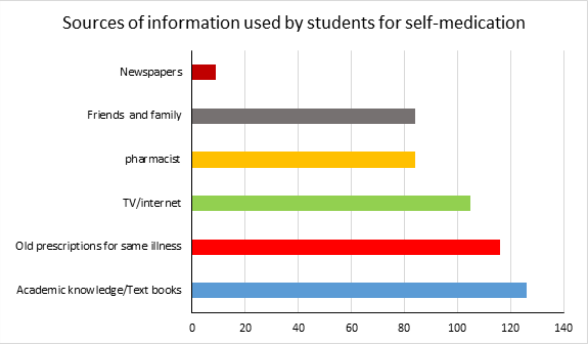
Common symptoms for self-medication were cough and common cold followed by fever and headacheand medications accordingly for these conditions were common **(Table 2).**

Table 2 Symptoms and medications commonly self-medicated by students (n=220)

Symptoms	Medications
Cough and common cold (64.1%) Fever (42.3%) Headache (37.7%) Heart burn/gastritis (33.6%) Diarrhoea (29.1%) Others (10.9%)	Cough suppressants (55.9%) Antipyretic (47.7%) Antiulcer (43.6%) Antibiotic (37.7%) Analgesia (34.55) Multivitamins (13.2%) Others (26.4%)

The different information sources by students have been described in **Figure 2,** which shows that academic textbooks were commonly as reference for self-medication.

Figure 2 Sources of information used by students for self-medication



Among the factors influencing self-medication, were mild nature of illness in 122 (55.45%), to save time 87 (39.54%), urgency in 54 (24.54%), and cost-effectiveness in 41 (18.6%).

Discussion

WHO recognizes self-medication as an important aspect of health care system, as the individuals are responsible for their health and this concept has evolved as one feels it unnecessary to seek professional advice for minor ailments which can be easily managed.2 Self-medication among medical under-graduates in India requires assessment as they are budding physicians and their limited clinical experience but access to medical knowledge through textbooks differentiates them from the spectrum of clinical practitioners and patients. With the availability of internet today, the medical knowledge has become accessible to everyone, but its judicious use by medical undergraduates who understand them better than general patients is important.

A number of studies have been conducted to assess the prevalence of self-medication among under-graduate medical students. In India, this prevalence has been reported as 57.05%3,71.7%4, and 78.6%5, which is close to that in the present study (73.3%).In International studies, this prevalence was reported to be very high in 97.8% medical undergraduates in Kuwait6, 84% in Nepal7, 79.9% in Serbia8, 65.2% in Bangladesh9, 55.3% in Pakistan10, 55% in Egypt11. In an extensive literature review of 27 studies on physicians and medical undergraduates, self-medication has been reported in the range of 12-99%, with 76% studies reporting it to be more than 50%.12

Similar to the present study findings, increase in the proportion of students with self-medication with increase in year of study has been noted in previous studies.3,4 The knowledge about drugs, their indications, and adverse effects is increased in 2nd year of medical education, with 'Pharmacology' as one of the subjects and thus, second year medical students have a considerable self-medication attitude.13 With clinical subjects available in 3rd and 4th year, tools for self-diagnose and accordingly, self-medication increase. Thus, many ailments come into the ambit of the 'minor illness' which are considered by medical undergraduates to be treated with self-medication.

Many other studies have similar reporting as cough and common cold, fever, headache and acidity to be common indications of self-medication. 35 This pattern is similar to international studies. In Kuwait and Nepal, the common reasons for self-medication headache, pain, fever, abdominal colic, cough.6,7 In Pakistan, the common self-medications were pain killers, analgesics, anti-allergics and antibiotics.10 Analgesics were commonest self-medication in study by Lukovic et al.8 Antibiotics have been used commonly used as self-medication.11 It is important that the knowledge about indications and drugs used for medication, their limitations and adverse effects are adequately known to the medical students. For eg. unnecessary use of antibiotics is not recommended for every fever and hence, it is important that awareness about self-medication should be made in the students.

Most of students in present study used academic textbooks as source of information on self-medication. Though academic textbooks provide information on the indication, and many other details, their regular updation is important, as pharmacology and medicine are rapidly involving fields, and with frequent drug alerts or warnings, which might not be incorporated immediately in the textbook, until the latest edition comes. In a recent study, package inserts and labels were the main source of information for self-medication among medical undergraduates.4 Pharmacists, family/relatives, and seniors have been reported to be an important source of self-medication in some studies.4,7

In the present study, the reasons for self-medications were similar but higher in occurrence compared to study by Banerjee et al.3 The medical students seek professional advice under certain conditions such as symptoms lasting more than a week, worsening of symptoms, severe pain and ineffective usual treatment.9Montgomery et al focused on important reasons for self-medication among medical graduates to be attitude to be considered under the role of patient, and also frequently, they feel their understanding about the disease and treatment to be better.12 This happens as with acquiring knowledge about disease and treatment increases there is increase in the confidence among the students. Independent risk factors identified by Lukovic et al which are associated with increased self-medication among medical students were possession of home-pharmacies, lower level of father's education, consumption of alcoholic beverages, less than 1 hour spent in physical activity per week, female gender, and older age.8 Thus, there are many factors that may be associated with the practice of self-medication in medical students.

Conclusion

Practice of self-medication is rampant in undergraduate medical student, which increases proportionately with increase in year of medical education.It is important that medical students be taught about the benefits/risks, and limitations of self-medication.

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