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.

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 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.

ABSTRACT

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

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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].
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 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%), physicians (60%), and old prescriptions (60%) 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<0.001). 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-medical students is lower than the medical students. 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.
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 Harara [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 medication is higher only in countries where use of antibiotics medication is more common. The antibiotics were used mainly by medical students.

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., fewer 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.

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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   | 48 (23)     | 61 (34.3)       |
| Not situated nearby      | 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) |
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