

Prevalence and pattern of self-medication among medical students of a private medical college in Kerala

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Introduction: Self-medication is defined as medication taken on one's own initiative or on the advice of pharmacist or any other lay person. It is one of the leading cause for the ever threatening drug resistance for various drugs. Medical students are future physicians and prescribers. It is important to know how they use medicines and what the pattern is. Hence, assessing their practice on this sensitive issue will help in planning interventions to prevent irrational use of medicines.

Objective: To determine the prevalence and pattern of self-medication among medical students.

Methods: A cross-sectional study was done among the medical students of a private college in Central Kerala using a pre - tested semi-structured questionnaire which had questions regarding common drugs used for self-medication, ailments, reasons, source & also awareness about dose, course & side effects of the drug used. **Results:** Prevalence of self-medication was 95%. Commonly self-medicated drugs include antipyretics 253(78.06%) and analgesics 158(58.8%). Diseases which are commonly self-medicated are fever 273(84.4%) and aches & pain 184(56.4%). Majority of students were self-medicating due to mild nature of illness 236(72.9%). Common source of self-medicated drugs were pharmacy for 248(76.5%), family & friends for 137(42.2%).

Conclusions: Prevalence of self-medication was found to be very high among medical students. Considering the fact that the respondents are future prescribers, correct, timely use of drugs need to be stressed. But they were using the drugs only for common ailments and not for serious diseases.

Keywords: Ailment, Drug, Medical Students, Prevalence, Self-medication, Source

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Introduction

Self-medication constitutes one of the most modern expressions of the always present need of men & women for care of their health. Internationally, self-medication has been reported as being on the rise [1, 2]. WHO consultative group of experts defined "self-medication as the selection & use of medicines by individuals to treat self-recognized illness or symptoms" [3].

Pharmaceuticals can be dangerous in any one's hands, particularly so in the hands of those who have little awareness of potential risks and correct administration. It is extremely difficult to investigate the rate at which the misuse of drugs induces illness. Several studies have indicated that there are risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interaction, poly-pharmacy and toxicological and pharmacological risks associated with improper use of non-prescription medicine [4].

There are many reasons for the increased likelihood of self-medication among medical students. These students have easy access to information from drug indices, literature, and other medical students to self-diagnose and self-medicate [5]. In addition, they have easy access to the medication itself through physician samples provided by pharmaceutical representatives, and "The White Coat guarantees trouble-free access to drugs available in pharmacies [6].

Medical students are future physicians and prescribers. It is important to know how they use medicines and pattern of their usage. Their perception about rational use of medicines can play an important role in addressing the problem of self-medication in future. Hence, assessing their practice on this sensitive issue will help in planning interventions to prevent irrational use of medicines. So we have conducted this study to identify the prevalence and pattern of self-medication among students of a medical college in central Kerala.

Material and Methods

A cross sectional study was conducted to find out the prevalence of self-medication among medical students in a private medical college in central Kerala, during November 2015. All students enrolled in the college were taken as the study population and those who gave consent were included in the study.

A pretested and semi structured questionnaire was framed and distributed to obtain information about the prevalence and pattern of self-medication and other relevant information. Collected data was entered in MS excel, statistical analysis was performed using SPSS and results were expressed as frequencies and percentages. Chi square test was done to find association. Approval was obtained from Research Committee and Ethics Committee prior to research.

Results

A total of 324 students participated in the study, of whom 205(63.3%) were females and 119(36.7%) were males. Among these 324 students, 80(24.7%), 78(24.10), 89(27.5%), 77(23.8%) were studying in their first year, second year, third year and final year respectively. The present study shows that 308(95.1%) were self-medicating & only 16(4.9%) are not taking any self-medication.

Table-1: Prevalence of self-medication among medical students

Self-medication	No of students	Percentage
Yes	308	95.1
No	16	4.9
Total	324	100.0

Table-2: Prevalence of self-medication in each batch

Batch	Self-Medication No: (%)	Total Students No: (%)
Final year	76 (98.7%)	77 (23.8%)
3rd year	88 (98.9%)	89 (27.5%)
2nd year	72 (92.3%)	78 (24.1%)
1st year	72 (90.0%)	80 (24.7%)

χ^2 10.558, degree of freedom- 3, $p=0.014$

Table-3: Drugs used for self-medication

Drugs	No. of students	Percentage
Antipyretics	253	78.06%
Analgesics	158	58.8%
Antihistamines	117	36%
Antibiotics	117	36%
Others	4	1.2%

In our study it was found that more female students 197(96.1%) practice self-medication than male students 111(93.3%). There was no significant association between prevalence of self-medication and gender ($p =0.293$). In our study it was found that, out of 77 students of final year batch, 76(98.7%) of students are self-medicating; in 3rd year out of 89 students participated, 88(98.9%) are

Found to be self-medicating; 78 students of 2nd year participated, out of which 72[92.3 %] are self-medicating and 72[90.0%] 1st year are self-medicating out of 80.

Table-4: Ailments for self-medication

Diseases	No. of students	Percentage
Fever	273	84.4%
Aches & pain	184	56.4%
Running nose & nasal congestion	157	43%
Cough & sore throat	126	38.8%
Others, diarrhea, vomiting	55	16.9%

Table-5: Reasons for self-medication

Reasons	No. of students	Percentage
Mild nature of illness	236	72.9%
Convenience	98	30.2%
Urgency	64	19.7%

Table-6: Sources of drugs used for self-medication

Source	No. of students	Percentage
Pharmacy	248	76.5
Family & Friends	137	42.2
Medical practitioners	33	10.4
Previous prescriptions	35	10.7
E-shopping	3	0.9

There was significant association between prevalence of self-medication and academic year ($p = 0.014$). It was found that there was significant increase, in prevalence of self-medication from first year to final year.

Out of 77 final year students who were self-medicating, 30(100%) are males and 47(97.9%) are females. In 3rd year out of 88, 57(100%) are females and 31(96.9%) are males. In second year, out of 72 students who are self-medicating, 47(97.9%) are females and 25(83.3%) are males. Among 72 self-medicating 1st year students, 47(88.7%) are females and 25(92.6%) are males.

Out of 308[95.1%] of self-medicating students, 253(78.06%) are taking antipyretics, analgesics 158(58.8%), antihistamines & antibiotics 117(36%).

Most common ailments for self-medication were fever 273(84.4%), Aches & pain 184(56.4%), running nose & nasal congestion 157(43%), cough & sore throat 126(38.8%). 55(16.9%) self-medicated for other diseases like diarrhea, vomiting etc.

Out of 308 students, 257(79.3%) were aware of dose & course of medicines which they are taking & rest 51(21.7%) were not aware. Among the respondents, 18(5.6%) had experienced adverse effects following self-medication, for which they either consulted a doctor or stopped the medication.

Discussion

The study conducted by Donkor *et al* on Self-Medication Practices with Antibiotics among Tertiary Level Students in Accra Ghana. Prevalence of self-medication was 70%, of the respondents, the main reasons cited for self-medication were that, it was less expensive compared to medical care in the hospital and secondly, medical care in hospitals were associated with long delays. Forty nine percent of the respondents had poor knowledge about the health implications of irrational use of antibiotics, and 46% did not comply with the completion of the full course of antibiotics [7].

In a study conducted in Behrampore, India on Self-medication practice among undergraduate medical students in a tertiary care medical college, West Bengal, 57.05% respondents practiced self-medication; 126 students (47.19%) felt that their illness was mild while 76(28.46%) preferred as it is time-saving. About 42 students (15.73%) cited cost-effectiveness as the primary reason while 23 (8.62%) preferred because of urgency [8].

In the study on self-medication pattern among medical students in Mangalore, India, self-medication was reported among 92%. The respondents who used self-medication found it to be time saving in providing relief from minor ailments. The most common ailments for which self-medication were used were: the common cold (69%), fever (63%) and headache (60%). The students consulted their textbooks (39%) and seniors or classmates (38%) for the medications. Antipyretics (71%), analgesics (65%), antihistamines (37%) and antibiotics (34%) were the most common self-medicated drugs [9].

According to study conducted by Kulkarni *et al* among Medical Students in Coastal South India, the prevalence of self-medication was 78.6%. A larger number of females were, self-medicating (81.2%) than males (75.3%). The majority of the students self-medicated because of the illness being too trivial for consultation (70.5%). Antipyretics were most commonly self-medicated by the participants (74.8%).

Easy availability and accessibility to health care facilities remains the cornerstone for reducing the practice of self-medication [10].

A study on Prevalence, pattern and perception of self-medication among medical students conducted by Pandya *et al* in Ahmadabad, Gujarat, India shows that out of 685 respondents 564 (82.3%) reported self-medication within one year of recall, period. Most common conditions/symptoms for self-medication in students were fever (72.7%), headache (69.1%), upper respiratory tract infections (64.1%) followed by others like body-ache, abdominal pain, diarrhea etc. [11].

The study conducted by Zafar *et al* on Self-medication amongst university students of Karachi, the prevalence of self-medication was 76%. Forty three percent students stated that they alter the regimen of prescribed medicines while 61.9% stated that they stop taking a prescribed medicine without consulting a doctor.

The most common reason for self-medication was previous experience (50.1%) and the most common symptoms were headache (72.4%), flu (65.5%), and fever (55.2%). Commonly used medicines were analgesics (88.3%), antipyretics (65.1%) and antibiotics (35.2%). Eighty seven percent of students thought self-medication could be harmful and 82.5%. Students thought that it was necessary to consult a doctor before taking a new medicine [12].

The study conducted by El Ezz *et al* on knowledge, attitude and practice of medical students towards self-medication in Egypt found that Prevalence of self-medication was 55%. Out of which 58.8%, 54.4%, 87.2%, 12% took antibiotic, vitamins, analgesics, sedatives, respectively without physician prescription. As regards the personal behavior towards following any prescription 14.4% always followed properly the prescription compared to 63.3% always discontinued the drug on feeling improvement, and 13.6% always repeated the prescription without seeking medical advice [13].

The study conducted by James *et al* on evaluation of the knowledge, attitude and practice of self-medication among first-year medical students in Bahrain found that Self-medication was practiced by 44.8% of the subjects. The most common indications for self-medication were to relieve the symptoms of headache (70.9%), cough, cold and sore throat (53.7%), stomachache (32.8%) and fever (29.9%).

Analgesics (81.3%) were the most common drugs used for self-medication [14].

In this study, prevalence of self-medication was found to be very high 308(95.1%) among medical students, highest among all the study discussed here. And also majority of students were aware about various issues concerned with irrational use of medicines. But considering the fact that the respondents are future prescribers, correct, timely use of drugs need to be stressed. This cross-sectional study has found that self-medication is very common among medical students, facilitated by the easy availability of drugs, and information from textbooks or seniors.

There is significant association between prevalence of self-medication and academic year. It was found that prevalence of self-medication increases from first year to final year. Antipyretics 253 (78.06%) and analgesics 158 (58.8%) being the most self-medicated drugs. Most common ailments for self-medication were found to be fever 273(84.4%), Aches & pain 184(56.4%), running nose & nasal congestion 157(43%), cough & sore throat 126(38.8%). 55(16.9%) self-medicated for other diseases like diarrhea, vomiting etc.

Source of drugs used for self-medication were pharmacy 248(76.5%), family& friends 137[42.2%], medical practitioners 33 [10.4%], left out previous prescriptions 35[10.7%], e-shopping 3 [0.9%]. Since inappropriate self-medication has the potential to cause serious harm, not only to the students themselves but also to those whom they suggest medication, potential problems of self-medication should be emphasized to the students.

Restriction of sale of drugs with potentially harmful effects should be implemented effectively with monitoring systems between the physicians and pharmacists. Steps can also be taken to educate pharmacists on the need to cross-check with the prescribing physician while dispensing such drugs.

Our study denoted that the most common reasons for self-medication were minor ailments (72.9%), convenience (30.2%), and urgency (19.7%). A similar study by Fleming *et al* reported the reasons as mild illness (40%) and shortage of time to consult a doctor (32%) [5]. Another study done by Jain *et al* reported the reasons as minor ailments (82%) and lack of time to consult a doctor (11%) [8].

In this study, source of drugs used for self-medication were pharmacy 248(16.5%), family& friends 137(42.2%), medical practitioners 33(10.4%), left out previous prescriptions 35(10.7%), e-shopping 3(0.9%). Another study conducted by Pandya et al showed that common sources were pharmacy (72%) friends (15.10%), left over from prior use (3.7%) [11]. We are not able to explain this kind of difference in our study and this study. In our study it was found that 21.6% of the students were unaware of the adverse effects of the drugs they used for self-medication. In addition to this, 5.6% of the study group reported experiencing adverse effects, for which they either consulted a doctor or stopped the medication which is in concordance with another study by Jain et al which reported that 32.6% of the students were unaware of the adverse effects and 5.4% reported adverse effects [9].

Conclusion & Recommendations

The students are taking mostly over the counter medicines for common ailments and nothing serious, so it is nothing to worry about. But as some of them are taking antibiotics, we need to do a study on morbidity pattern among the students to see how many of them are suffering from serious ailments, like diabetes, hypertension or serious infection, etc. and what is their approach to treat those ailments.

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