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Original Research Article

Study on impact of pharmacology teaching on practice of self-medication among MBBS students

Bhuvaneswari Balan, Sharmila Bakthavatchalam*

Department of Pharmacology, Chengalpattu Medical College, Chengalpattu, Tamilnadu, India

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***Correspondence:**
Dr. Sharmila Bakthavatchalam,
Email: bbalan27eswari@gmail.com

ABSTRACT

Background: Self-medication is consumption of medicines without consulting a physician. The present study was undertaken to determine the knowledge, attitude and practice of self-medication among medical students and to compare impact of pharmacology teaching among them.
Methods: A cross-sectional comparative questionnaire-based study was conducted among 200 II MBBS and III MBBS students. Data was collected and analyzed.
Results: 90.91% II MBBS students and 85.97% III MBBS students practiced self-medication. The commonest reason cited for self-medication among both the groups was minor ailments and intention to get quick relief. The commonest indication for self-medication was common cold and fever. The commonly used drugs were analgesics followed by cough remedies and antibiotics. Our study showed that the knowledge about generic and trade name, package inserts, course of treatment and adverse effects was more among third year students who had completed pharmacology curriculum. Hence the Pharmacology teaching equips the student with better knowledge to choose a drug for self-medication. Only 4.54% of II MBBS students and 13.79% of III MBBS students agreed on the practice of self-medication. Majority believed that medical education is necessary for better administration of self-medication. Both II and III year MBBS students opine that growing trend of self-medication can be prevented by prevention of supply of medicines without prescriptions and education.
Conclusions: Our study shows the positive impact of pharmacology curriculum on the knowledge attitude and practice of self medication among medical students.

Keywords: Medical students, Pharmacology, Curriculum, Self-medication

INTRODUCTION

Self-medication is the selection and use of medicines by individuals to treat illness or symptoms without a prescription.[1] The practice of self-medication is very old and it is an integral part of self-care. Obtaining and consuming drugs without the advice of a physician is called self-medication. Medicines for self-medication are often called 'non-prescription' or 'over the counter' (OTC) medicines.[2]

Studies revealed that the increase in self-medication was due to a number of factors. These included socioeconomic factors, lack of access to health care and poor drug regulations leading to ready access to drugs. It is influenced by peers, pharmaceutical industries and media. Young people are particularly prone to self-medicate due to their increased exposure with media and internet. Furthermore, increased availability of OTC also favors the growing trends of self-medication. Resubmitting an old prescription without the doctor's advice also comes under self-medication.

WHO also gives importance on responsible self-medication wherein Medicines used are of proven safety, quality and efficacy and medicines used are indicated for conditions that are self-recognizable and for some chronic or recurrent conditions (following initial medical diagnosis).[3] Self-medication when practiced appropriately can relieve acute problems, saves time reduce cost, burden of government doctors, save time and improve health awareness among patients.

However incorrect self-diagnosis could not only delay appropriate treatment but also cause adverse effects, habituation, allergic reactions, antibiotic resistance, drug interaction and unnecessary expenditure.[4] In our country, both modern drugs and traditional medicines are commonly used for self-medication. This further increases the chances of drug interaction and adverse effects. Therefore, it is important to know the prevalence and causes of self-medication practices, so that appropriate measures can be taken for preventing improper practices of self-medication.

Self-medication among medical students however is a different issue as they have knowledge about diseases and drugs. In second year, students are trained with pharmacology, which is nothing but study of drugs. There is a paucity of studies on self-medication among medical students. The present study was undertaken to determine the knowledge, attitude and practice of self-medication among II MBBS and III MBBS students of the Government Medical College, Tamil Nadu and to compare impact of pharmacology teaching among them.

Aim of the study was to determine the knowledge, attitude and practice of self-medication among medical students and to compare impact of pharmacology teaching among them.

Objective of the study was to compare the impact of pharmacology teaching on the practice of self-medication among medical students and to assess the common drugs used, knowledge and attitude towards use of self-medication and potential adverse reactions among medical students.

METHODS

A cross-sectional comparative questionnaire based study was conducted among 200 II MBBS and III MBBS students of the Government Medical College, Tamil Nadu in the Department of Pharmacology, from December 2015 to February 2016 (3 months) after obtaining clearance from ethical committee. This study was done among II year MBBS students, who are pharmacology naïve and have minimal clinical exposure and III year students of MBBS, who had completed pharmacology curriculum and have adequate knowledge of drugs and diseases, to assess the impact of pharmacology teaching on self-medication.

Raosoft® online sample size calculator was used with 5 % margin of error, 50 % response rate and 95 % confidence interval 160 participants were calculated as to be sufficient for the study. Our study included 200 participants. A self-developed questionnaire containing both open- and close-ended questions regarding the knowledge, attitude and practice of self-medication was used. The II- and III-year medical students who were willing to participate in the study by completing the questionnaire were included in the study. Students who were not willing and incompletely filled questionnaires were excluded from the study.

Study was conducted simultaneously for both II and III year MBBS students. A briefing about the objective of the study and the procedure of completing the questionnaire was given. Informed written consent was taken from each student participating in this study. Consenting participants anonymously completed the questionnaire in the classroom. Total 45 minutes was given to students to complete the questionnaire. The completed questionnaire of both II and III year MBBS students was collected and analyzed separately and incomplete ones were excluded.

Statistical analysis

The data was tabulated, and results were expressed as descriptive statistics.

RESULTS

A total of 200 students, 100 each in II and III MBBS were enrolled. After giving informed written consent, they completed the written questionnaire. Only completed questionnaires were analyzed and rest was excluded. Out of 200 MBBS students in 88 second MBBS and 87 III MBBS students completed the study. The mean age of II MBBS students was 20±1 years and mean age of III MBBS students was 21±1 years, 90.91% II MBBS students and 85.97% III MBBS students practiced self-medication, 91.25% of II MBBS students and 81.63% of III MBBS students self-medicated on as and when required basis.

Table 1: Reasons for self-medication.

Reasons for self-medication (more than one option)	II year	III year
To save money/time	9.09	17.54
Quick relief	42.04	54.38
Confidence in self-medication	17.05	36.84
Crowd avoidance	11.36	5.26
A minor ailment	42.04	40.35
Available freely on the counter	2.27	10.52
Others	9.09	3.50

The commonest reason cited for self-medication among both the groups were minor ailments and intention to get

quick relief (Table 1). The commonest indication for self-medication was common cold and fever followed by headache and body ache (Figure 1). The commonly used drugs were analgesics (Figure 2). Basis of selection of drugs for self-medication is given in Table 2. 63.16% III MBBS students said that textbooks and internet was the basis of their choice, though still majority of students in both groups still used previous prescriptions for self-medication.

The study has proved the positive impact of pharmacology teaching on knowledge and attitude of students regarding self medication (Table 3).

In our study 54.54% of II MBBS students and 78.17% of III MBBS students had knowledge about generic, trade name, course and dosage of drugs. 44% of II MBBS students and 72.41% of III MBBS students had knowledge of side effects of commonly used drugs.

Impact of pharmacology teaching on practice of self medication is discussed in Table 4. Study of pharmacology has thus refined the use of drugs used for self medication thereby increasing the confidence of the students.

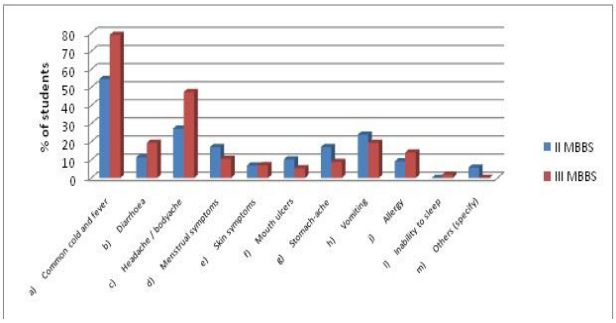

Figure 1: Common indication for self-medication.

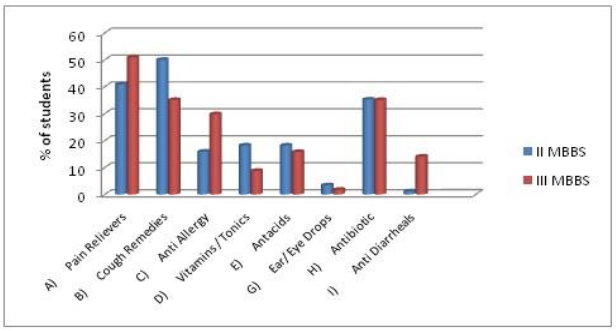

Figure 2: Commonly used medications.

Table 2: Basis of selection of drugs for self medication.

Selection of drug was based on (multiple options)	II MBBS (%)	III MBBS (%)
Recommendation by pharmacists	19.32	22.81
Textbook/journals/internet	6.82	63.16
Opinion of family members/ friends	21.59	21.05
Previous doctor's prescription	72.73	52.63
Others	6.82	10.53

Table 3: Impact of pharmacology teaching on knowledge and attitude of students regarding self medication.

Knowledge and attitude	II MBBS (%)	III MBBS (%)
Knowledge about generic names and trade name	54.55	78.17
Knowledge about adverse reactions	44.31	72.41
Attitude towards self medication		
Good	4.54	13.79
Acceptable	42.04	40.23
Not acceptable	53.41	45.98
Self-medication is harmful if they are taken without proper knowledge of drugs and disease	55.69	83.90
Medical education is necessary for better administration of self-medication	59.09	79.31

Table 4: Impact of pharmacology teaching on practice of self medication.

Practices	II MBBS	III MBBS
Understanding package insert		
Good	32.95	59.77
Partial	54.54	37.93
Incomplete	12.50	2.29

Continued.

Practices	II MBBS	III MBBS
Knowledge about dosage of drugs		
Good	64.77	72.41
Partial	32.95	27.58
Incomplete	2.27	0
Knowledge of completing course of therapy		
Good	55.68	66.67
Partial	55.68	31.03
Incomplete	4.54	2.29
Knowledge about counterfeit medication		
Good	45.45	52.87
Partial	44.31	34.48
Incomplete	10.23	12.64
Can you treat common ailments		
Yes	27.27	52.87
Not sure	59.09	41.38
No	13.63	5.74

Only 4.54% of II MBBS students and 13.79% of III MBBS students agreed on the practice of self-medication (Figure 3). Both II and III-year MBBS students opine that growing trend of self-medication can be prevented by prevention of supply of medicines without prescriptions and education.

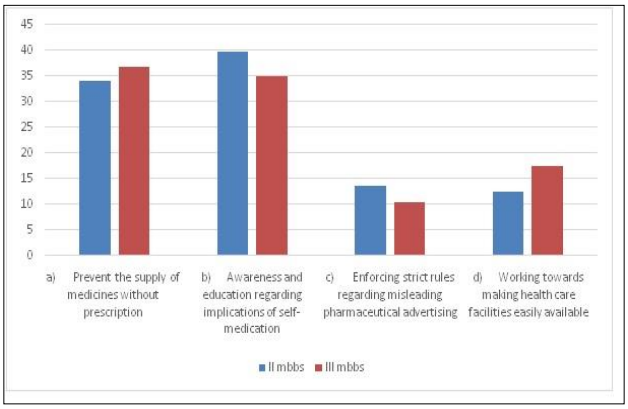

Figure 3: How to prevent growing trend on self medication.

DISCUSSION

Self-medication is the use of medication by a person on their own without medical prescription or supervision. Self-medication practices varies among population depending upon their knowledge, education, exposure and availability of medicines. Incomplete knowledge of mechanism of action, uses, adverse effects and contraindication of drugs may often lead to inappropriate choice of drugs among those taking self-medication.

In this study, 175 completed questionnaires were analyzed. Prevalence of self-medication was 90.91% among second year MBBS students and 85.97% among III MBBS students. This is consistent with various studies in foreign countries that showed prevalence of self-medication to be between 25.4-91%.[5,7-9] In this study practice of self-medication has shown declined slightly from second year to third year. This shows more sensible used of drugs.[10]

The commonest reason cited for self-medication among both the groups were minor ailments and intention to get quick relief. This was similar to studies done in Punjab where the commonest reason was quick relief and study done in west Bengal where minor ailments was the reason for not going to a doctor.[11,12] Though in our study there was increase in confidence seen among III year MBBS students with ability to self-diagnose and treat after completing pharmacology curriculum.

The commonest indication for self-medication was common cold and fever followed by headache and body ache. This was similar to another study done in Ethiopia where fever was the most common indication.[5]

The commonly used drugs were pain relievers followed by cough remedies. This was similar to study done in Pakistan.[7] Antimicrobials use was third commonly used class. This was different from to that of previous studies in Nepal where use of antimicrobials was infrequent.[13] However 35% of both II- and III-year medical students reported the use of antibiotics for self-medication. This was slightly less than 39.3% reported by Nithin Kumar et al.[14] Some previous studies also show same pattern, which cautions us against adverse effects of analgesics and risk of antimicrobial resistance, if the usage was inappropriate.

For majority of students practicing SM, selection of drugs were based on previous prescriptions. A similar observation was also made by studies done in Malaysia.[15] Whereas 63.16% III MBBS students said that textbooks and internet was the basis of their choice. This clearly signifies the impact of pharmacology teaching.

Study showed that the knowledge about generic and trade name was more among third years who had completed pharmacology curriculum. They were well versed with knowledge on uses and adverse reactions of drugs. Hence the Pharmacology teaching equips the student with better knowledge to choose a drug for self-medication. Similarly, pharmacology teaching also improved the understanding of package inserts. Knowledge of dose of drug, completing the course of therapy, counterfeit medications and adverse reactions were also positively impacted by pharmacology teaching.

This has also increased the confidence among students of III year, as 52.87% of them believe they can treat common ailments by themselves. Some previous studies have shown that medical students in general have better knowledge of use and adverse effects of drugs.

Only 4.54% of II MBBS students and 13.79% of III MBBS students agreed on the practiced of self-medication. This number was far less compared with previous studies.[16] Hence the Attitude of students towards self-medication is changing. Even though majority believe that it is not acceptable it is still widely prevalent among medical students. Majority of both II and III-year MBBS students opine that self-mediation is harmful without proper knowledge and medical education is necessary or better knowledge on choice of drug for self-medication.

Self-medication cannot be eradicated in growing countries like India where drugs are available over the counter freely. It is an essential part of self-care. In this era of information, it is unavoidable. Responsible self-medication has to be promoted among both the medical students and the general public. Activities like seminars on drugs may improve knowledge among medical students, particularly I and II year and thus improve their choice of drugs for self-medication. Stringent regulations and OTCs with proper information about its use can alone promote responsible self-medication. Hence in our study we can see the positive impact of pharmacology teaching on practice of self-medication.

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