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RESEARCH ARTICLE

Pattern of drug usage among medical students in Tumkur, Karnataka

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ABSTRACT

Background: Scheduled drugs are also purchased without prescriptions, which is a cause for concern. Educational status is an important determinant of self-medication. Student drug use surveys provide an essential source of information about the prevalence and frequency of drug use, associated harms, socio-demographic correlates, and identification of high-risk groups in a youth population. Self-medication is more common among medical students because of easy access to drug information and drugs. **Aims and Objective:** The present study was undertaken to identify the patterns of self-medication among medical students. **Materials and Methods:** The study was carried out among medical students studying in the Shridevi Institute of Medical Sciences and Research Hospital, Tumkur, by questionnaire-based interview. **Results**: Among 267 students interviewed, 66.8% took self-medications, 24.6% followed the prescriptions. The number of students using self-medications was significantly higher ($P < 0.05$). Monotherapy was more among students taking medicines without medical advice (83.15%), whereas polytherapy was more common among prescription medication users (83.33%). There was a significant difference between the number of students reporting satisfaction with self-medication and prescription use. **Conclusion:** Self-medication among medical students was significantly higher, but the outcome was unsatisfactory to them.

KEY WORDS: Drug Utilization; Self-medication; Prescription Medication

INTRODUCTION

The World Health Organization addressed drug utilization as the marketing, distribution, prescription, and use of drugs in society, with special emphasis on the resulting medical, social, and economic consequences.[1] Studies on the process of drug utilization focus on the factors related to the prescribing, dispensing, administering, and taking of medication, and its associated events, covering the medical and non-medical determinants of drug utilization, the effects of drug utilization as well as studies of how drug utilization relates to the effects of drug use, beneficial, or adverse.[2]

The legislations for over-the-counter and prescribed drugs supply are not fully implemented at pharmacy stores, and the documentation of patients' treatment is restricted to hospitals. Self-prescription, easy access to drugs at pharmacy stores without prescription, low literacy levels, and parallel systems of alternative medicine have left the community exposed to the hazards of the irrational use of drugs.[3]

In recent years, the cost and expenditure of drugs have increased enormously. Scheduled drugs can be purchased even without prescriptions, which is a cause for concern. Educational status is an important determinant of self-medication. Hence,

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it is essential to ensure that the drug used should match the burden of diseases and essential needs.[4]

Student drug use surveys (SDUS) provide an essential source of information about the prevalence and frequency of substance use, associated harms, socio-demographic correlates, and identification of high-risk groups in a youth population. From 2006 to 2009, the SDUS working group composed of representatives from 9 of the 13 provinces and territories as well as national representation from the Office of Research and Surveillance in the Controlled Substances and Tobacco Directorate at Health Canada, was tasked with developing a set of core indicators of youth alcohol and drug use to be used in existing and future SDUS.[5] In 2009, the SDUS working group agreed upon on a set of 10 questions recommended for inclusion in surveys designed to assess the prevalence and harms associated with alcohol, cannabis, and other illicit drug use among a student population.[6]

People should be appraised to buy only over-the-counter drugs and refrain from buying scheduled drugs. Legislation and its implementation are mandatory as drugs are double-edged swords and account for a major out of pocket health care cost.[4]

Medical education has always been regarded as highly stressful. The stressful academic environment can exert a negative effect on the psychological and physical well-being of medical students.[7] A major stressor for medical students is the amount and complexity of the material to be learned.[8]

Self‐medication is more common among medical students because of easy access to drug information and drugs (physician samples); the "White Coat" guarantees trouble‐free access to drugs.[9] Hence, the present study was undertaken to identify the patterns of self‐medication among medical students.

MATERIALS AND METHODS

Source of Data

Data were collected from all the medical students of the Shridevi Institute of Medical Sciences and Research Hospital, Tumkur, India, using a pre-designed questionnaire form for 6 months.

Study Design

Cross-sectional, descriptive study.

Method of Data Collection

A specially designed questionnaire was used to record the data from the students under following headings:

- Demographic data: Name, age, and gender
- Medical history: H/O illness, pattern of drug use – self-medication, prescription medication, and mixed (self-medication followed by prescription medication)
- H/O of adverse drug reactions: if any.

Inclusion Criteria

Irrespective of the gender, students in the age group of 18-25 years were included in the study.

Exclusion Criteria

1. Irrespective of the gender, students who were below 18 and above 25 years of age
2. Monitoring of use of known non-formulated substances (tobacco, alcohol, heroin, etc.) of abuse.

Analysis of Data

Data were tabulated using MS Excel 2013 and analyzed using OpenEpi 2.3 and Chi-square test.

RESULTS

Among 267 medical students interviewed, 66.8% took self-medications and 24.6% followed the prescriptions medication (Figure 1).

Out of the 173 medical students who suffered from acute illness, 85.55% took self-medication while only 2.31% took prescription medication; whereas, out of the 94 medical students who suffered from chronic illness only 31.91% took self-medication, whereas the percentage of students who took prescription medication was 65.96% (Table 1 and Figure 2a and b).

Among the students who took self-medication, 83.15% preferred monotherapy while only 16.85% took polytherapy.

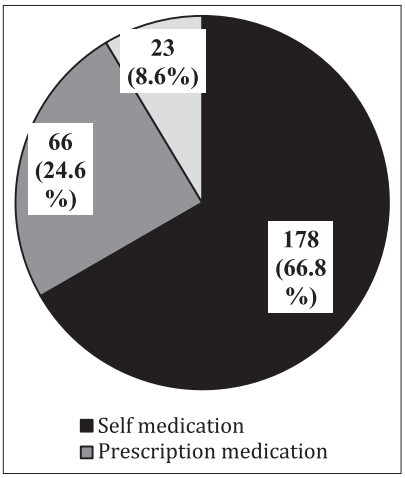

Figure 1: Distribution of medical students according to pattern of medication

Whereas, among the students who took prescription medication, only 16.67% took monotherapy while 83.33% took polytherapy (Figure 3).

A total of 98 students were satisfied with the therapy they took 28 among self-medication and 52 among prescription medication group, whereas 169 students were not satisfied (Table 2).

DISCUSSION

Self-medication can be defined as obtaining and consuming drugs without the advice of a physician for diagnosis, prescription, or surveillance of treatment.[10,11] In developing countries, people are not only using non-prescription drugs but also prescription drugs, as self-medication products, without supervision.[12]

According to the present study, out of 267 students, 66.8% took self-medications, whereas 24.6% took prescription medication for their illnesses.

Table 1: Distribution of medical students according to illness

Type of treatment	Acute illness	Chronic illness	Total
Self-medication	148	30	178
Prescription	4	62	66
Mixed	21	2	23
Total	173	94	267

χ^2=78.84; *P*<0.001

Table 2: Distribution of medical students according to satisfactory status of drug therapy

Type of treatment	Satisfactory	Non-satisfactory	Total
Self-medication	28	150	178
Prescription	52	14	66
Mixed	18	5	23
Total	98	169	267

χ^2=101.1; *P*<0.001

According to a study conducted by Kasulkar and Gupta, 71.7 % students reported self-medication,[13] whereas, in a study conducted by Abay and Amelo, 38.5% of students practiced self-medication.[14]

Most of the students in the present study suffering from acute conditions are strongly associated with self-medication (85.55%), whereas those suffering chronic condition preferred prescription medications (65.96%).

Similarly, in a study conducted by Badiger et al., the most common reasons for self-medication were acute ailments (82%).[9]

In the present study, monotherapy (83%) was more among self-prescribers, and polytherapy (96%) was more among prescription users.

In a study conducted by Singh and Singh in a Medical College in Patiala, out of 750 undergraduate students, 7 out of 10 students were found to have used some drug in the past. A majority of the students (78.6%) were poly-drug users.[15]

In the present study, it was found that there is a significant association found between the satisfactory status of the students and the drug therapy approach.

Medical students are not afraid of using drugs with potentially harmful adverse effects and potential for addiction and abuse.[9] By virtue of their profession, medical students gain easy access to some of the prescription only drugs.[16]

CONCLUSION

Self-medication among medical students was significantly higher, but the outcome was unsatisfactory to them, whereas the satisfactory levels were higher among medical students who took prescription medications. The pattern of self-medication practice changes with time due to technological advancement. Self-medication will always be prevalent among medical students, and there is need

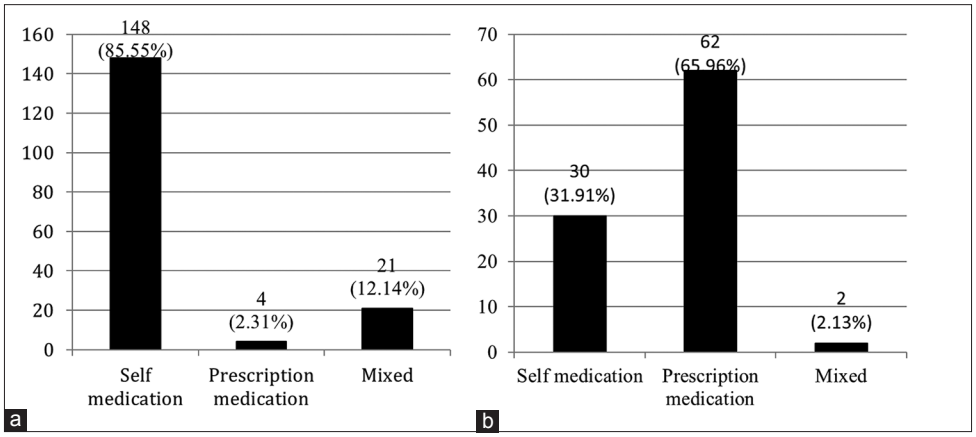

Figure 2: Distribution of medical students according to illness (a) acute illness, (b) chronic illness

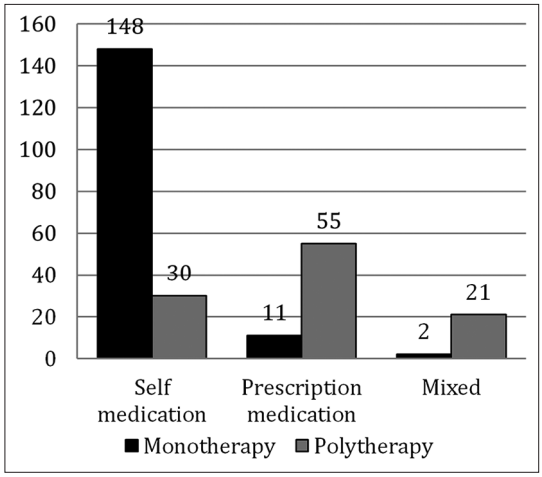

Figure 3: Distribution of medical students according to mode of therapy

for strong implementation of rules regarding dispensing of drugs by a pharmacist as well as the complimentary samples given by medical representatives to doctors (particularly physicians).

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