

## SELF MEDICATION AMONG DENTAL STUDENTS IN TERTIARY CARE HOSPITAL OF CHENNAI, INDIA – A CROSS- SECTIONAL STUDY

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Article Received on 25/06/2020

Article Revised on 15/07/2020

Article Accepted on 05/08/2020

### ABSTRACT

**Introduction:** Self-medication is defined as use of medicines by the individuals on their own without professional advice to treat self-diagnosed conditions. It is prevalent not only among general population but also among doctors including dentists. **Aim:** To assess the pattern of self-medication practice among students of a dental college of chennai city. **Materials and Methods:** A cross-sectional study was conducted among undergraduate dental students through convenience sampling. A questionnaire consisting of 20 questions related to various aspects of self-medication practice was handed to the students. **Results:** Among 234 students and total of 40.9% of respondents indulged in self-medication. Both male and female dental students equally had a habit of taking medicines on their own. The most common drugs used for self-medication were antipyretics (46.56%), followed by analgesics (40.08%), and cough syrups (18.02%). Cold (19.43%) was the major indication for self-medication, followed by (18.02%) a cough, and (16.19%) was a fever. Most common reason not to see a doctor was that there is no need to see a doctor because of a simple disease (31.58%) followed by the need for a quick relief (20.45%). The predominant guiding sources of information for students was media (magazines and internet) (38.06%) and books (39.88%). **Conclusion:** Majority of the dental students self-medicate themselves. Measures should be adopted to reduce such type of practice by guiding the students about the pros and cons of using medicines without prescription.

**KEYWORDS:** Dental students, non-prescription drugs, OTC drugs, self-medication, Anti- microbial resistance.

### INTRODUCTION

Self-medication can be defined as obtaining and consuming drugs without the advice of a physician either for diagnosis, treatment or monitoring.<sup>[1]</sup> In the recent years, there has been an increasing trend in self-medication with nonprescription (over-the-counter [OTC]) drugs available in pharmacies and retail outlets.<sup>[2]</sup> Self-medication is endemic in developing countries.<sup>[3]</sup> Some studies in India report a rising incidence.<sup>[4]</sup> A major problem with self-medication with antimicrobials is the emergence of human pathogens resistance.<sup>[5]</sup> Self-medication is a common practice across the world and its consequences e.g. misdiagnosis, wrong diagnosis, irrational use of drug, adverse drug reaction, and antimicrobial resistant are cause of concern. The students of medicine, dentistry, pharmacy, paramedical courses are among the most vulnerable class for its practice.

Advertisements for OTC medicines are legal in many countries, including India. The antibiotics are on widely

used as a self-administered drugs in countries that do not control their commercialization.<sup>[6]</sup> It is reported that easiness of obtaining drugs without a prescription can especially increase the inappropriate use of antibiotics.<sup>[7]</sup> Although there have been many regulations in India to regularize sale of OTC, however, temporal trends and regional differences are important triggers for action and investigation, and benchmarking by comparisons between countries should be an important stimulus to quality improvement.<sup>[8]</sup>

Dental students are future prescribers of drugs and so it is important to find out how rational their drug use is. They differ from the general population because they are exposed to knowledge about disease and drugs. So the research question arises whether dental students have a self-medication habit for common ailments. Also, data pertaining to the prevalence of self-medication among dental students in India is scarce.

## MATERIALS AND METHOD

A descriptive cross-sectional study was conducted at a Dental College and Hospital of Chennai. The subjects participated were of 1st, 2nd and 3rd, 4th and interns Bachelor of Dental Surgery (BDS) with age ranging from 19 to 24 years. A semi-structured questionnaire in English language consisting of socio-demographic characteristics such as age, gender, qualification of parents, attitude and practice of self-medication and its source of advice for last 6 months was questioned. All participants were well versed in English language. Informed Consent was taken from subjects after due information to them to maintain confidentiality regarding the collected data. Participants were given sufficient time to fill the form. Questionnaire included the following aspects. 1). Socio-demographic data including age, gender educational qualification of parents 2). Self-medication practiced in last six months and its source of advice. 3). Advising/prescribing of drugs to others. 4) Most common condition and drugs used as self-medication. 5) Utilization of unused drug, Any ADR observed while and awareness on drug expiry. 6) Use of Food supplement, multivitamins, body building drinks/powder, supplement for weight gain/loss hair fall and memory enhancer were asked. 7) Use of Alternative medicine (Ayurveda/Homeopath/Unani)

**Statistical Analysis:** The Final data was put in tabulated form and was analyzed using Microsoft excel and SPSS version 16.0. The data was subjected to descriptive analysis. Frequencies and percentages were calculated and analyzed. Comparison of responses of questions with independent variables such as age, gender, year of education (I-IV BDS, internship), distance to a medical store, and last visit to a physician was done using Chi-square test.

## RESULTS

Out of the total (257), 234 students returned the questionnaires duly filled, giving a response rate of 90.14%. The mean age of the respondents was 21.47 (range 18–24). There were 60 male students and 174 female students who participated in the survey.

Fifty-six percent of the respondents bought a medicine without a prescription. Multiple responses were allowed to the questions in Table 1. Most common reason not to see a doctor was that there is no need to see a doctor because of a simple disease followed by the need for a quick relief.

Table 1 shows that magazines, internet and books followed by own decisions are the most common source of information about medications.

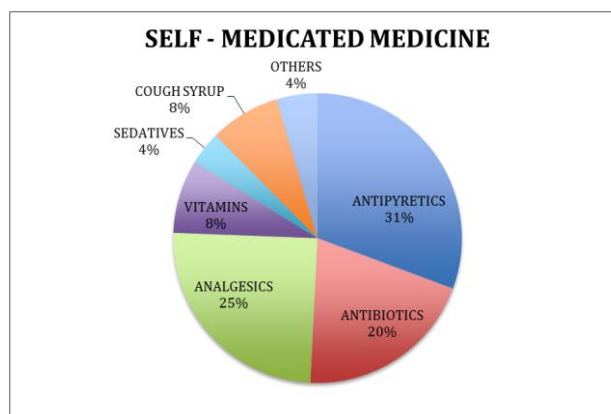
**Table 1: Source of medication about medications.**

Source	Frequency (%)
Pharmacist/chemist	11%
Self decision	28%
Family	14.3%
Old prescription	8.5%
Magazines	44%
Internet	42%
Books	36%

Table 2: Shows conditions where respondents take medicines on their own it is seen that most common condition, where self-medication was followed, is cold, cough, and menstrual pain.

**Table 2: Reason for self – medication conditions.**

Cold/ cough	34%
Body pain	1.62%
Toothache	1.8%
Headache	9.2%
Fever	14.5%
Allergy	6%
Menstrual pain	17.04%
Acidity	7.04%



**Fig 2: shows the kind of medicines frequently used by the respondents. Most frequently used medicine was antipyretics (33.5%), followed by analgesics (27.08%), and cough syrups 19.6%, antibiotics 22%**

TABLE 3: Comparison of practice of self-medication was done with independent variables such as age, gender, year of education (I-IV BDS, internship), distance to a medical store, and last visit to a physician using Chi-square test. Comparison of the practice of self-medication with age, gender, distance to a medical store, and last visit to a physician did not reveal a statistical significant difference ( $P > 0.05$ ). Table 7 shows a comparison of the year of education and practice of self-medication. It is seen that a high number of I BDS students (83.51%) did not practice self-medication. However, the trend of self-medication increases as the year of education increases. During the internship, there is a practice of prescribing medicines to the patients. About 78.65% interns practiced self-medication.

**Table 3: comparison of year of education and self – medication practice.**

Year of education	Chi-square test
I BDS	0.000*
II BDS	
III BDS	
IV BDS	
INTERNS	

\*P=0.000 statistically highly significant difference

## DISCUSSION

The prevalence of self-medication was more among senior students as compared to junior students, as they are exposed to knowledge about drugs and disease.

Possessing academic medical knowledge compounded by easy access to drugs, results in high prevalence of self-medication. However, improper selection and sub-optimal duration promotes resistance. A significant number of students do not complete the recommended course of antibiotics and are unaware of the adverse effects of the medications that they themselves take and suggest to others.

This study emphasizes the need for focused educational intervention, through continued medical education and multimedia programs, to bridge knowledge gaps between students perceptions and accurate drug information.

This study shows a prevalence of self-medication among dental students, which accounts for almost 40.9%. The high educational and literacy level of the studied respondents may be the reason. This is quite low when compared to studies done globally where a higher level of self-medication practice was seen, maximum being 98% in Palestine.<sup>[9]</sup> There has been a high variation in the level of self-medication practice as many local factors such as legislative aspects, drug dispensing without valid prescriptions, and availability of OTC drugs play a role. Overall many studies have shown a higher prevalence of the practice of self-medication among medical, dental, and paramedical students. The varied result in the present study attributed because data for comparison from studies carried out among dental students are very minimal.

The mean age of study participants was 21.47 years. The young age group of the respondents may also be contributory to the documented prevalence.<sup>[10]</sup> the gender distribution between male and female dental students equally had a habit of taking medicines on their own.

Younger age, educational level, exposure to advertisements, legislation, the importance attributed to a disease, and better social and economic background are documented risk factors for self-medication (Fig.1).<sup>[11,12]</sup>

In this study, only 20% self-medicated with antibiotics which is quite less when compared to studies done in

China<sup>[12]</sup> which showed 47.8%, whereas, studies done 19.9% in Palestine,<sup>[9]</sup> 17.20% in Ethiopia, and 21.2% in North India. In contrast, Abay and Amelo<sup>[13]</sup> reported low use of antibiotics (4.8%). Use of antibiotics is high when there is a lack of implementation of proper regulatory control over the OTC sale and also rational use of these drugs has impacted in the resistance of many antibiotics. This study shows that most common drugs used for self-medication were antipyretics (31%), followed by analgesics (25%), and antibiotics (20%). This is similar to studies done by James *et al.*<sup>[15]</sup> where paracetamol was always used. Sawalha stated that self-medication with analgesics; in particular, paracetamol was reported by 86.6% of the respondents.<sup>[9]</sup> This lower result may be due to the fact that the drugs are obtained on prescription.<sup>[15]</sup> As observed in this study, cold/ cough (34%) was the major indication for self-medication, followed by 17% menstrual pain, and 14% was a fever. Sallam *et al.* confirmed this by reporting that the most used self-medicating drugs were those drugs for pain relief and respiratory system.<sup>[20]</sup> this study result is also in accordance with kalra *et al.*<sup>[16]</sup>

Most common reason not to visit physician was that there is no severe condition to see a doctor because of a simple disease (37.8%) followed by the need for a quick relief (17.5%).

The predominant guiding sources of information for students was media magazines (44%) internet (42%) and books (36%) followed by own decision (28%). This result is accordance with kalra *et al.* In contrast, reading material was the major information source (30.5%) in a study on Gondar University students. Though the use of media (television and internet) for gaining information about drugs and strictness regarding pharmaceutical advertising that targets the youth is warranted.

The presence of home pharmacy is associated with self-medication as storage of medication at home with free access, and easy visualization of the products is a risk factor for self-medication.<sup>[4]</sup> In this study, 58% of students stored medicines at home.

## CONCLUSION

Self-medication is common among professional dental students, facilitated by knowledge and easy availability of OTC drugs. Considering any health issue as a “MILD ILLNESS” by the students was one the most commonest reasons for self-medication and can be inappropriate for their health. Given their limited clinical experience and high levels of work stress, students may not be able to judge when to seek medical advice and are also unaware of the importance of correct choice of medication.

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