

## Assessment of Self-Medication Practices among Students of Dental College of Bareilly City: A Cross-Sectional Study

Prasanjeet Kumar<sup>1</sup>, Shivalingesh K. K.<sup>2</sup>, Anushtha Kushwaha<sup>1</sup>, Nandita Gautam<sup>1</sup>

<sup>1</sup>Post Graduate Student, Department of Public Health Dentistry, Institute of Dental Sciences, Bareilly, Uttar Pradesh, India, <sup>2</sup>Professor and Head, Department of Public Health Dentistry, Institute of Dental Sciences, Bareilly, Uttar Pradesh, India

### ABSTRACT

**Introduction:** Self-medication is defined as use of medicines by the individuals on their own without professional advice to treat self-diagnosed conditions. **Aim:** This study aims to assess the self-medication behaviors of interns and postgraduates students at the dental college in Bareilly. **Materials and Methods:** During the months of August and September 2021, a cross-sectional survey was done among interns and postgraduates students aged 17–25, sample size of 165 at Institute of Dental College in Bareilly city. A questionnaire consisting of 20 closed-ended questions related to various aspects of self-medication practice was handed to the students. **Results:** Among 165 students, 68.5% of the participants were female. The majority of students (64.2%) obtained information through a past sickness or doctor's prescription, directly from the pharmacy (20.3%), or by accessing the web (15.5%). Around 72.7% of students knew enough about adverse medication reactions. **Conclusion:** The vast majority of dental students self-medicate. Actions should be adopted to minimize this type of behavior by educating students about the benefits and drawbacks of using medications without a prescription.

**Key words:** Self-medication, dental students, non-prescription drugs

### INTRODUCTION

Self-medication is defined as the act of taking non-prescribed or over-the-counter (OTC) medications without professional advice.<sup>[1]</sup> It can involve things such as reutilizing outdated prescriptions or sharing leftover medications with others.<sup>[2]</sup> Self-medication is characterized as obtaining and taking medications for diagnosis, treatment, or monitoring without the advice of a clinician.<sup>[3]</sup>

Self-medication with non-prescription OTC medications obtainable in pharmacies and retail stores has become more popular in recent years.<sup>[4]</sup> In impoverished countries, self-medication is common.<sup>[5]</sup> According to several researches in India, the incidence is on the rise.<sup>[6]</sup> The emergence of human pathogen resistance is a key issue with antibiotic self-medication. Self-medication, which encourages people to treat minor ailments with inexpensive and effective cures, has become popular all around the globe.

Due to the accessibility of over 7000 medications at local chemist stores, a skewed doctor-population ratio of 0.6/1000, and a lack of understanding and literacy on correct medicine use, there has clearly been an increase in desire to evaluate the self-medication trends in a developing country like India.<sup>[7]</sup>

The lack of clinical assessment of the situation by a qualified medical professional is a major flaw in self-medication, which can lead to missed or delayed diagnoses, delays in appropriate

and effective therapy, increased inorganic risks due to inadequate drug therapy or additional cost, and drug interactions among both prescription and non-prescription drugs.<sup>[7]</sup>

The person's education, family background, availability of drugs, and the impact of print and electronic media are all factors that contribute to self-medication.<sup>[8]</sup> Self-medication is thought to be predicted by a high level of professional education.<sup>[9]</sup> Thus, the purpose of this research was to assess the self-medication behaviors of undergraduate dentistry students at the dental college in Bareilly.<sup>[10]</sup>

### MATERIALS AND METHODS

During the months of August and September 2021, a cross-sectional survey was done among undergraduate dental students, aged 17–25, at Institute of Dental College, Bareilly. The institutional ethical committee assessed the study protocol and gave it their approval. This research used a sample size of 165 dental students (both interns and postgraduates). Convenience sampling

#### Corresponding Author:

Dr. K. K. Shivalingesh, Professor and Head, Department of Public Health Dentistry, Institute of Dental Sciences, Bareilly, Uttar Pradesh, India.  
E-mail: shivgesh@gmail.com

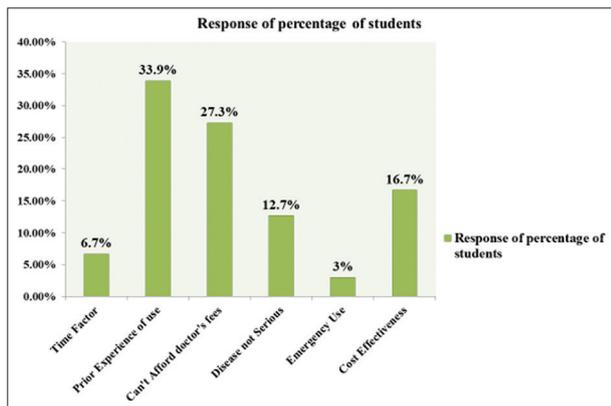


Figure 1: Most common reason behind self-medication practices

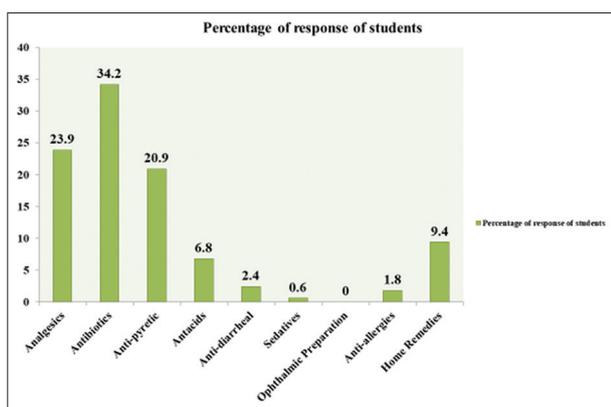


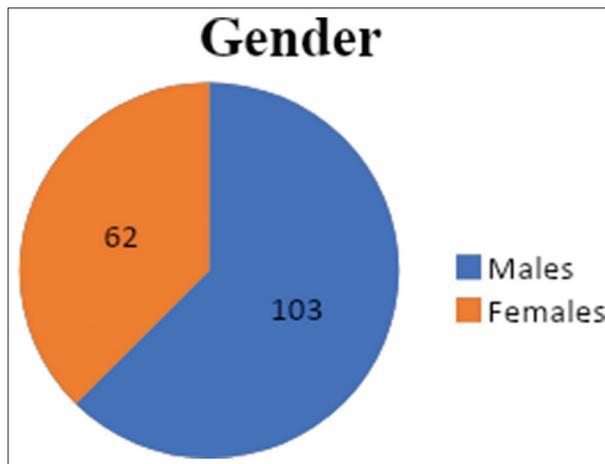
Figure 2: Most common group of drugs used in the form of self-medication

was used to choose all 165 students who had signed the informed consent form. They were informed about the study's purpose and requested to complete a printed questionnaire.

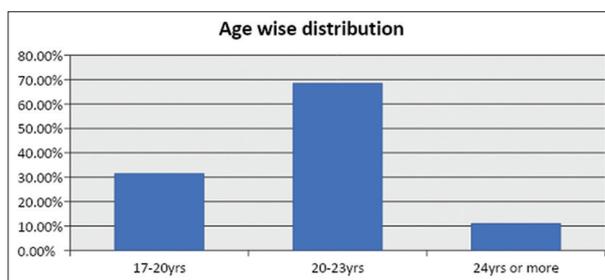
The survey consisted of 10 closed-ended questions in English that had previously been validated. Four of the 10 questions were concerning knowledge, six were about dentistry students' attitudes, and one was about their self-medication behaviors. All of the questions were based on a 2-point Likert scale, with two options: "Yes" or "No." only the completed questionnaires were considered for the final analysis after they were evaluated for completeness. Data were entered into Microsoft Excel 2013, and descriptive and inferential statistics were calculated using the Statistical Package for the Social Sciences version 22 software (SPSS). The significance was determined using the Chi-square test. Significant was defined as  $P < 0.05$ .

## RESULTS

A total of 165 interns and postgraduates aged between 17 and 25 years, with a mean age of 20.46 ( $\pm 2.16$ ) years, participated in the study. Of these, 103 (62.42%) were female and 62 (37.5%) were male [Graphs 1 and 2].



Graph 1: Gender distribution bar graph in which 103 (62.42%) were females and 62 (37.5%) were males



Graph 2: Pie chart of dental undergraduate and post graduate mean age 20.46 ( $\pm 2.16$ ) years

Table 1: Immediate response of the students when they fall sick

Immediate response of the participants After falling sick	Interns	PGs	Total	(%)	P-value
Consult a doctor	41	12	53	32.1	0.001*
Self-medication	36	43	79	47.9	0.16
Ask suggestion from a friend	07	03	10	6.1	0.97
Wait till symptoms subsides	10	13	23	13.9	0.96
Total			165	100	

Chi-square, \* $P < 0.05$  significant

The majority of the 165 students polled said that they had used self-medication in the previous 6 months (86.4%). The majority of students (64.2%) obtained information through a past sickness or doctor's prescription, directly from the pharmacy (20.3%), or by accessing the web (15.5%). Friends, books, and advertisements were revealed to be other sites of self-medication. Since most students became ill, their first reaction was to self-medicate (47.9%). The next best option was to seek medical advice (32.1%). Students' responses varied throughout the course of 5 years of study and were statistically significant ( $P = 0.001$ ) [Table 1].

When questioned about the adverse effects of various medications, 87.9% ( $P = 0.03$ ) said that they were aware of them. They also knew enough about adverse medication reactions (72.7%)

**Table 2:** Awareness of dental students regarding self-medication practices among (interns and PGs)

Awareness of dental students regarding self-medication practices	Agree (%)	Disagree (%)	P-value
Are you aware of the side effects of these self-medication?	145 (87.9)	20 (12.1)	0.038*
Are you aware of the dosage?	129 (78.2)	36 (21.8)	0.091*
Are you aware of the adverse drug reactions?	120 (72.7)	45 (27.3)	0.027*
Are you aware about the expiry date?	160 (97.0)	5 (3)	0.639
Are you aware of the importance of completing the course?	145 (87.9)	20 (12.1)	0.037*

Chi-square test, \*P<0.05 significant

and the necessity of finishing the drug course (87.9%) ( $P = 0.037$ ). When questioned about medicine dose and verifying the expiration date before using the drugs, 78.2 and 97% of students knew what to do, but there was no statistical significance seen [Table 2].

## DISCUSSION

Self-care, according to the World Health Organization (WHO), is what individuals do for themselves to build and preserve health, as well as prevent and treat sickness.<sup>[11,10]</sup> Self-medication is a type of self-care in which people take medicines without the supervision of a doctor, and the medications are referred to as “OTC” drugs.

Self-medication is common among dental interns, according to the findings of our study (81.2%). Increased trends in this practice could be due to a variety of factors. For example, interns are more subjected to drug knowledge as a result of the incorporation of pharmacology as a 2<sup>nd</sup> year subject, and a small number of them also have convenient access to free samples of various drugs from medical representatives, as well as the advancement of new technology. Individuals, particularly teenagers, are significantly impacted by this technology because they may gain information about any substance as well as purchase drugs through several websites, resulting in increasing self-diagnosis and later self-medication [Figure 1].

Cough, cold, and sore throat (22.4%) were the most common reasons for self-medication in our survey, accompanied by fever, whereas headache was the most common excuse for self-medication in studies conducted by Abay and Amelo (25.8%),<sup>[6]</sup> Goel and Gupta<sup>[8]</sup> (42.8%), Kalyan *et al.*<sup>[9]</sup> (71.4%), and Srikanth *et al.*<sup>[12]</sup> (54.5%). Raikar and Mala<sup>[7]</sup> (91.5%) and Kumar *et al.*<sup>[13]</sup> both indicated fever as the most common reason for self-medication (75.1%). Despite the fact that there is no known cure for the common cold, people could not help but self-medicate to alleviate the symptoms as quickly as possible. As a result, the use of OTC drugs for cough, cold, and sore throat has increased.

Antibiotics (34.2%) and analgesics (23.9%) were reported to be the most widely used types of self-medication in this study. Analgesics were reported to be the most widely used for self-medication practice by Raikar and Mala<sup>[7]</sup> (76.1%) and Goel and Gupta<sup>[8]</sup> (59.05%). Paracetamol and nonsteroidal anti-inflammatory medications were the most regularly used drug classes in another survey [Figure 2].<sup>[6]</sup>

Antimicrobials were generally obtained by prescription and were not widely employed for self-medication. A most prevalent source of self-medication knowledge was a past prescription

(58.2%) and second by the web (7.8%). Kumar *et al.*<sup>[13]</sup> discovered similar results (54%). According to a study done by Goel and Gupta,<sup>[8]</sup> pharmacists (51.43%) can also play an important role in disseminating information about drugs. Another survey discovered that 30.5% of students got their drugs through reading material.<sup>[6]</sup> In the long run, this type of behavior could have a variety of negative repercussions.

The primary reasons accountable for self-medication behaviors were found to be previous experience with self-medication (33.9%) and wasteful expenditure on doctor's fees (27.3%) in our research. Abay and Amelo<sup>[6]</sup> reported similar findings, with past familiarity with pharmaceutical use being the most important influence (35.4%). Expense was shown to be the most important factor in utilizing self-medication by Raikar and Mala<sup>[7]</sup> (56.6%) and Srikanth *et al.*<sup>[11]</sup> (42.3%). In the present study, it was also discovered that students' first response after becoming ill was to take drugs (47.9%).

Kalyan *et al.*<sup>[9]</sup> reported similar results (62%). In our survey, 78.2% of interns and 97% of postgraduate students were aware of the significance of drug dose and verifying the expiration date before using a drug, respectively. Kalyan *et al.*<sup>[9]</sup> reported similar results. In our study, 72.7% of students were aware of adverse drug responses, which is higher than Goel and Gupta<sup>[8]</sup> (59.6%) and Kalyan *et al.*<sup>[9]</sup> (59.6%) (62.5%). According to the findings of this study, the majority of students (84.2%) trust solely the allopathic system of medicine, which is consistent with Kumar *et al.*<sup>[13]</sup> (80.6%).

Inappropriate self-medication among health-care students is a grave and unavoidable problem that must be addressed through proper education and knowledge of the benefits and drawbacks of medicines, as according to the WHO, judicious self-medication can be a very beneficial and cost-effective method of treating ailments that do not necessitate medical consultation.<sup>[14]</sup> Because the results were based on a questionnaire, there is a risk of self-medication over-reporting, and because this is a cross-sectional survey with a small sample size, the findings cannot be generalized.<sup>[15]</sup> We could not make a comparison to the general population because only dentistry undergraduate students were included. Future research should include a bigger sample size and the general population.

## CONCLUSION

Self-medication is a common occurrence among dental interns. The primary reason for this behavior was determined to be past familiarity with these drugs and a desire to avoid spending unneeded

money on doctor's costs. The most common drugs taken by the students were antibiotics and analgesics, and they were generally for cough, cold, and fever, according to previous prescriptions and pharmacists. The majority of students were conscious of the dosage, adverse effects, and significance of finishing the course and double-checking the expiration date before using it.

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