



## PREVALENCE, BEHAVIOUR, AWARENESS AND ATTITUDE REGARDING SELF MEDICATION: A COMPARATIVE STUDY BETWEEN MEDICAL AND DENTAL STUDENTS IN SOUTH INDIA

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### ABSTRACT

**Background:** Self-medication is one of the common problems worldwide and is a cause of antibiotic resistance. The prevalence of self-medication in India could be high due to improper drug regulation and easy availability of over the counter medications. The knowledge, attitude and awareness regarding self-medication among medical and dental students could help us in understanding the need for awareness campaigns and necessitate the early exposure to the hazards of self-medication.

**Objectives:** This study was aimed to compare the prevalence, awareness and attitude towards self-medication among medical and dental students from a reputed college in Telangana.

**Materials and Methods:** A cross-sectional, descriptive study was conducted in medical (n=150) and dental (n=150) students to assess their awareness, attitude and behavior towards self-medication. Medical and dental students aged between 17 and 25 years were included in the study. Data was collected using self-administered questionnaire.

**Results:** The overall prevalence of self-medication was high (87.3%) with antipyretics being most commonly self-prescribed (94.3%), followed by analgesics (72.5%) and antibiotics (58.0%). There was a significantly increased usage of sedatives (6.3%) & vitamins (78.8%) among medical students when compared to dental students. 88.0% felt that self-medication was acceptable and only 11% of them were aware of the hazards of drug misuse. The most common source for self-medication was physician prescription (75.3%) and 91% preferred self-medication to doctor consultation for minor illness to avoid waiting for long periods. Female students showed a statistically significant increased usage of analgesics (63.7%), vitamins (73.2%) and herbal drugs (66.9%) compared to their male counterparts.

**Conclusion:** This study highlights the high prevalence of self-medication among medical and dental students and the lack of awareness of the hazards of improper drug usage. Drug resistance and adverse effects due to self-medicated drugs is a global issue and creating awareness among the students regarding the hazards of drug misuse is very important.

**KEYWORDS :** Medical, Dental, students, self-medication, attitude, behavior, knowledge

### INTRODUCTION

Self-medication is defined as the intermittent or continuous use of a prescribed drug to treat self-diagnosed chronic or recurrent disease and its symptoms [1, 2]. The practice of self-medication is universally widespread [3,4]. Self-medication has become the preferred first line of treatment among public which raises a serious concern among medical professionals about the irrational use of drugs [5,6,7]. Medications are usually advised by and to friends and relatives based on the prescription received for their ailment.

The availability of prescription medicine over the counter without a valid prescription slip is a common practice in India and provides a cost effective and cheaper alternative to consulting the doctor [8]. The availability of prescription medicines over the counter and its irrational use is complicated by improper dosage and irrational drug combinations. Self-medication could lead to the emergence of drug resistance which is a growing menace worldwide. [9]

Various studies have revealed that the main factors, for the use of over the counter medicines and self-medication are, easy availability of the drugs without valid prescription, lifestyle and a low socioeconomic status [10]. The prevalence rate of self-medication is as high as 68% in European countries and is expected to be much higher in developing nations like India [11]. Hence this study was designed with the aim to assess the prevalence and compare the knowledge, attitude and behavior towards self-medication between medical and dental students who represent wider regions of the community.

### MATERIAL AND METHODS

A cross-sectional, descriptive study involving medical and dental

students from a reputed college in Telangana, was conducted. Students from all the semesters (17-25yrs), including both gender, were considered for the study. The total sample size was estimated to be 300 by using open epi software, keeping the Confidence Interval (CI) at 90% and level of significance as 5%. Students were explained the objectives of the study and motivated to participate ensuring anonymity. Ethical clearance was obtained from the institute ethical committee and willing participants were enrolled for the study.

Participants were provided with a self-administered questionnaire. The questionnaire included questions on the knowledge of various drug categories, attitude and the usage of the drugs for self-medication. Personal details including Name, age, sex, permanent address and year of study were collected. The study was conducted over a period of 3 months and the collected data was analyzed using SPSS version 20. Z score for comparison of proportions was done to compare the association between two groups.

### RESULTS

Data was collected from 150 medical students and 150 dental students. The total sample population was 300. There were 92 males and 58 females in the medical stream whereas; the dental stream had 68 males and 82 females. The mean age group of the participants was  $19.5 \pm 2$  years. Among the 300 students, 66.3% were from urban areas and the remaining 33.7% were from rural areas. The overall majority of the participants were from 1<sup>st</sup> year (48.3%) and 2<sup>nd</sup> year (30%) in both medical and dental college.

The overall practice of self-medication was found to be 87.3% and

the dental college students showed a slight increase in percentage of self-medication compared to the medical college students (**Table 1**). The usage of antipyretics as self-medication was highest (94.3%), with a slight increased usage in dental students (**Table 1**). Analgesics were the next most commonly misused (72.5%) without a valid prescription and were bought over the counter (**Table 1**). Vitamins and herbal drugs were the next commonly misused medications (**Table 1**). Vitamin usage was high among medical students compared to dental students and the difference was statistically significant (**Table 1**). Antibiotic usage as self-medication was more than 50% with almost the same prevalence in both the medical and dental college students. The least self-medicated drugs were sedatives 3.8% and there was a statistically significant ( $p < 0.05$ ) increased usage of sedatives among medical students (**Table 1**).

The awareness of the drug misuse was less and overall only 10.0 % knew that drug interactions could lead to side effects. 73.3% of them knew about hazards of increased dosage and only 12% knew about the health hazards of discontinuing the drug without medical advice. There was no significant difference in the knowledge regarding hazards of drug misuse between medical and dental college students.

The attitude towards self-medication was that 88.0% of the students felt that taking medicines without a valid prescription was acceptable. The most common reasons for self-medication were to avoid long waiting periods in the clinics (91%) and that consulting the physician for minor illness wasn't necessary (92%). The ease and convenience of self-medication (73.3%) and minimizing the time spent on doctor consultation (85.3%) were the next common reasons for preferring self-medication. Only 25% of the students felt that minimizing the expenditure (25.0%) was the reason behind self-medication (**Diagram 1**).

The main source of self-medication was through the physician's old prescription for a previous illness (75.3%) followed by the purchase of drugs on the advice of the drug store pharmacist (40.3%). Friends and relatives (55%) served as the source of medical advice and the least common sources was from books (6.7%). 45.3% of medical students took their friends advice for medication during an illness which was significantly more ( $P < 0.05$ ) than that of dental students (17.3%) (**Diagram 1**).

The usage of sedatives (90%) and antibiotics (60.5%) as self-medication were significantly more in male students whereas female students showed a significant increase in self-medication of analgesics (63.7%), vitamins (73.2%) and herbal drugs (66.9%) (**Table 1**).

**DISCUSSION**

A total of 300 medical and dental college students were evaluated for their knowledge and attitude towards self-medication. We compared the medical and dental students to see the presence of any significant difference in their knowledge and attitude regarding self-medication. We also attempted to analyze the difference in the awareness, attitude and behavior regarding self-medication between genders.

The overall prevalence of self-medication among medical and dental students was 87.3% which was higher than expected. The prevalence of self-medication in our study was similar to a study by

Sundararajan et al [12]. The prevalence of self-medication was 55% in a study done in Ain shams university, Egypt [13]. An Iran study by Zardosht et al, showed that 50.2% practiced self-medication [14]. The prevalence of self-medication among medical students in coastal South India was 78.6% [15]. Another study done in Brazil by Silva et al showed 86.4% practiced self-medication [16]. A study by Mehta et al, in students of Nepal medical college showed a 64.6% prevalence of self-medication [17]. The knowledge and attitude were found to be good among medical students in Western Nepal which was in contrast to the findings in our study [18,19].

Antipyretics and analgesics were the highly misused drugs followed by antibiotic usage which was in accordance with a study done in South India [20]. The ease of availability of these drugs without a prescription could be the reason for increased self-medication. Herbal drugs which aren't well regulated by the drug authorities are also frequently self-medicated and the false belief that herbal drugs are completely devoid of side effects could be the reason behind this practice. There was a significantly increased usage of vitamins among medical students when compared to dental students. The increased awareness of vitamin deficiencies in medical students could be the reason behind the increased usage. Though the overall usage was least for sedatives, the significantly increased usage among medical students compared to dental students should throw caution.

The most common source for self-medication was physician prescription given for a previous illness based on which the students self-medicated the next time. The findings were similar to the previous studies conducted on medical students in India [17,20,21]. There was a statistically significant increase in usage of advertisement as source of information for self-medication along with friend's advice, among medical students. Whereas, there was a statistically significant increase in usage of old physician prescription, pharmacist advice and relatives as sources information for self-medication among dental students.

**CONCLUSION**

Our study showed an overall high prevalence of self-medication among medical and dental students. Antipyretics and analgesics were the most commonly misused and sedatives were the least common due to their restricted availability. The increased usage of sedatives in medical students especially males should be a cause for concern and might be indirectly indicative of the stress during their medical education. Female students could have been more apprehensive in using sedatives which could have been the reason for their decreased usage.

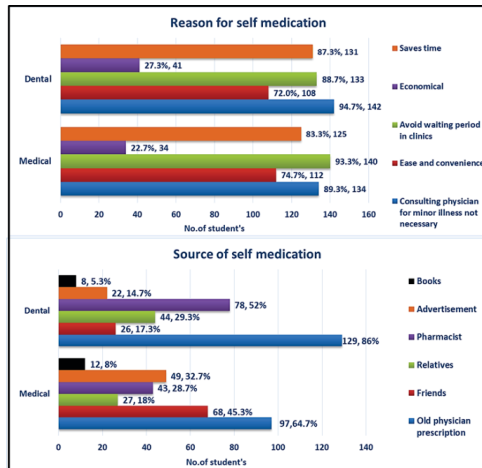
The indiscriminate use of antibiotics among male students of all streams throws light on the emergence of drug resistance which is a cause of high concern. The awareness regarding interaction between drugs and hazards due to changes in duration of medication was very low in all the students necessitating the need for the spread of awareness about drug interactions among students. Majority of the students felt self-medication was acceptable especially when the illness was a minor one. Time constraint in doctor consultation was one of the critical factors responsible for self-medication. Further studies have to be done to see if the results are representative of the entire Indian population. Students have to be counseled for stress and made aware of the hazards of self-medication which could have a larger impact on the entire population.

<b>Table 1: Behavior, Awareness and Attitude among Medical (n=150) and Dental students (n=150)</b>						
<b>BEHAVIOUR</b>		<b>Medical</b>	<b>Dental</b>	<b>Total</b>	<b>Males</b>	<b>Females</b>
	<b>Commonly self-medicated drugs</b>	<b>%(n)</b>	<b>%(n)</b>	<b>%(n)</b>	<b>%(n)</b>	<b>%(n)</b>
	Total students practicing self-medication	85.3(128)	89.3(134)	87.3(262)	85.3(128)	89.3(134)
	Antibiotics	57.8(74)	58.2(78)	58(152)	60.5(92)*	39.5(60)
	Analgesics (Pain killers)	68.8(88)	76.1(102)	72.5(190)	36.3(69)	63.7(121)*
	Sedatives (For anxiety & sleep)	6.3(8)*	1.5(2)	3.8(10)	90(9)*	10(1)
	Antipyretics (for fever)	92.2(118)	96.3(129)	94.3(247)	51.8(128)	48.2(119)

	Vitamins	78.9(101)*	61.2(82)	69.8(183)	26.8(49)	73.2(134)*
	Herbal drugs	64.1(82)	67.2(90)	65.6(172)	33.1(57)	66.9(115)*
AWARENESS	<b>Hazards of drug misuse</b>					
	<b>Interaction between drugs</b>					
	Yes	12(18)	8(12)	10(30)		
	No	88(132)	92(138)	90(270)		
	<b>Hazards of increased dosage</b>					
	Yes	69.3(104)	77.3(116)	73.3(220)		
	No	30.7(46)	22.7(34)	26.7(80)		
	<b>Hazards due to changes in duration</b>					
Yes	18.7(28)	5.3(8)	12(36)			
No	81.3(122)	94.7(142)	88(264)			
ATTITUDE	<b>Attitude towards self-medication</b>					
	<b>Self-medication is acceptable</b>					
	Agree	82(123)	88(132)	85(255)		
	Neutral	5.3(8)	6.7(10)	6(18)		
	Disagree	12.7(19)	5.3(8)	9(27)		
	<b>Reason for self-medication</b>					
	Consulting physician for minor illness is not necessary	89.3(134)	94.7(142)	92(276)		
	Ease and convenience	74.7(112)	72(108)	73.3(220)		
	Avoid long waiting period in clinics	93.3(140)	88.7(133)	91(273)		
	Economical	22.7(34)	27.3(41)	25(75)		
	Saves time	83.3(125)	87.3(131)	85.3(256)		
	<b>Source for self-medication</b>					
	Old Physician prescription	64.7(97)	86(129)*	75.3(226)		
	Friends	45.3(68)*	17.3(26)	31.3(94)		
	Relatives	18(27)	29.3(44)*	23.7(71)		
	Pharmacist	28.7(43)	52(78)*	40.3(121)		
	Advertisement	32.7(49)*	14.7(22)	23.7(71)		
Books	8(12)	5.3(8)	6.7(20)			

Z score for comparison proportions was done. \*P<0.05 was considered statistically significant, n = Total number, % percentage of 'n'

**Diagram 1: Reason and Source of self-medication among Medical and Dental students**



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