

A questionnaire-based cross-sectional study on self-medication practices among undergraduate medical students of GMERS Medical College, Valsad, Gujarat

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ABSTRACT

Background: Self-medication is widely practiced worldwide, especially developing country as many drugs are dispensed over the counter without prescription and may lead to irrational usage of drugs. Self-medication common among medical students especially encountered among medical students because of their future medical preference and the fact that medical students find themselves having more knowledge about drugs. Hence, the present study was conducted to find out the prevalence, reasons and commonly use medicine for self-medication practice by them. **Objectives:** The objectives of this study are to find out the prevalence of self-medication among medical students and to know the various factors related with self-medication among them. **Materials and Methods:** A cross-sectional, questionnaire-based study was conducted among undergraduate medical students of GMERS Medical College, Valsad. The study was conducted in the months of October–December 2017. Medical students of first and final year MBBS participated voluntarily in this study after being briefed in detail about the goals and method of the study. The data were entered and analyzed using statistical software. **Results:** In this study, 91.50% of medical students were practiced self-medication. 62.89% were purchased medicines by generic name of drugs, 69.95% were aware about side effect, and 64.48% knows the dosage of medicine used by them for self-medication. Common reason for self-medication was they know the medicine (78.14%) and previous experience (64.48%). Most commonly used medicine for self-medication was antipyretics (83.06%) and nonsteroidal anti-inflammatory drugs (64.48%). **Conclusions:** Self-medication is widely practiced among undergraduate medical students. There is need to create awareness by proper information through inclusion of this topic to academic course to halt this malpractice among medical students.


KEY WORDS: Self-medication; Medical Students; Drugs

INTRODUCTION

Self-medication is the use of drugs with therapeutic intent without professional advice or prescription. In other words,

it means the use of medicines by people on their own initiative.^[1] Self-medication thus forms an integral part of self-care, which can be defined as a primary public health resource in the healthcare system. It includes the use of drugs, non-pharmacological approaches, social support in illness, and first aid in day-to-day life.^[2]

Self-medication, when not based on authentic medical information, can lead to irrational drug usage, wastage of resources, increased chances of microbial resistance to antibiotics leading to serious health hazards such as adverse drug reactions and prolonged morbidity.^[3] Drugs commonly

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used as self-medication include analgesics, antacids, antibiotics, antitussives, and multivitamin supplements.^[4]

Self-medication is widely practiced worldwide, especially developing country as many drugs are dispensed over the counter without prescription and may lead to irrational usage of drugs. According to some studies, it was found that the burden of self-medication with antibiotics is higher in developing countries than in developed countries.^[5] The prevalence is 4–75% in Asia, which is lesser in northern Europe as low as 3%.^[6] The frequency of self-medication among university students was very high in Karachi, Pakistan. For medical students, the frequency was 77.7%, which was 83.3% for non-medical students.^[7]

In New Delhi, India, it was observed that self-medication was considerably high among undergraduate medical and paramedical students in India and this situation was increased with medical knowledge.^[8]

Medical students though have not legal permit to prescribe the medicine, but have an inevitable urge of self-medication practice themselves and also for others as they are going through the professional course for their gradual acquirement of knowledge regarding different drugs and their proper use.^[9,10] As they reach their final semester self-medication practice increase with their increment inability of their diagnosis of different clinic conditions and knowledge of use of drugs.^[11]

Previously a good amount of researchers had been done to address this issue both in India as well as in abroad.^[9,10,12,13] However, the pattern has not still been explored among medical students of Valsad. With this background, the current study had been taken up to estimate the prevalence of self-medication and also to find out the factors related with self-medication practices among the undergraduate medical students of GMERS Medical College, Valsad.

MATERIALS AND METHODS

A cross-sectional study was conducted among undergraduate medical students of GMERS Medical College, Valsad, in the months of October–December 2017 for the period of 3 months.

Medical students of first and final year MBBS participated voluntarily in this study after being briefed in detail about the goals and method of the study.

Out of 234 undergraduate medical students of 1st MBBS and 3rd MBBS participated in a study, a total of 200 medical students were consider for study purpose with a recall period of 1 year.

A medical student those who were absent during survey, those who gave incomplete information on self-medication were excluded from this study.

A predesigned, semi-structured questionnaire was used to collect the relevant information pertaining to study variables. A questionnaire consist questions regarding age, sex, and self-medication practices such as reason, sources, symptoms, method of purchasing the medicine, and types of medicine used for self-medication.

Self-medication was widely practiced by medical students, so this study was conducted to know the prevalence of self-medication and various factor related with self-medication among medical students of this Institute.

The data were entered in MS Excel 2010, and appropriate statistical test was applied when needed.

RESULTS

A total of 200 medical students participated in this study, of this 101 (50.50%) were male and 99 (49.50%) were female. Out of 200 medical students of 183 (91.50%) were practiced self-medication [Figure 1].

Table 1 summarized that those who did the self-medication, majority of them 115 (62.84%) were purchased medicine by generic name of the drugs, 41.53% purchased by brand name, followed by telling sign and symptom (36.06%), with old prescription (32.24%) and showing used packet (24.59%) to pharmaceutical store. Majority of final year MBBS medical student were used generic name (45.35%) as compared to 1st year MBBS medical student as their knowledge is increase regarding medicine with their curriculum.

Table 2 summarized that 49.73% of 3rd MBBS medical student aware about active component of medicine, 46.99% are aware about side effects of medicine, 40.44% are aware about dosage of medicine as compared to 1st MBBS medical students which were 19.13%, 22.95%, and 24.04%, respectively, and this difference was found to be statistically

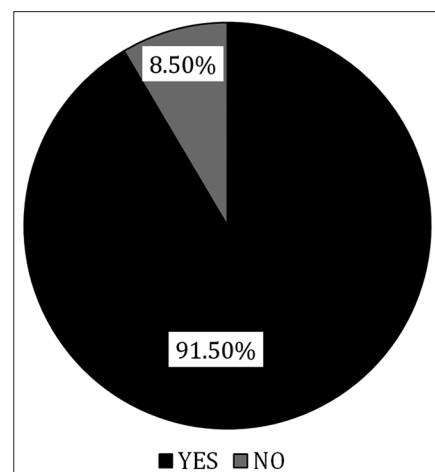


Figure 1: Distribution of medical students as per self-medication practice

significant. (Table 2a: χ^2 value: 74.14, Table 2b: χ^2 value: 45.65, and Table 2c: χ^2 value: 18.79 $P < 0.001$ at df:1).

Table 3 summarizes the reasons for self-medication among medical students, and we found that 78.14% do the self-medication as they knew the medicine, 64.48% had previous exposure, 45.35% used for trivial sickness, 43.17% used similar medicine in past, 8.74% do self-medication due to busy lifestyle, and 7.10 said self-medication work faster.

In our study, we noted the commonly used medicine for SM and we found that 83.06% used antipyretics followed by nonsteroidal anti-inflammatory drugs (NSAID's) (64.48%), cough syrup (48.09%), antihistamines (47.54%), antacid (43.17%), skin ointment (33.88%), antiemetics (31.69%), antidiarrheal (28.96%), eye/ear drops (20.22), antispasmodic (18.58%), nutritional supplements (17.49%), and others

(2.19%). Table shows that excessive use of almost all kind of medicine by a medical student for self-medication. Inconsistent use of medicine may lead to side effect and resistance among antimicrobials.

DISCUSSION

The present study was conducted to know the various factors related with self-medication practice. In our study, total 200 medical students were participated, of this 50.50% were male and 49.50% were female. While in a study conducted by Pal *et al.* at ESIC Medical College, Joka, Kolkata, 59.0% of medical students were male and 41.0% were female.^[14] In a study conducted among medical student at Jazan University, 50.0% were male and 50.0% were female, and these findings were similar to our study.^[15]

Table 1: Distribution of medical students by method of purchasing/procurement of drugs for self-medication

Purchasing of medicine	1 st MBBS (n=90) n(%)	3 rd MBBS (n=93) n(%)	Total (n=183) n(%)
Brand name	48 (26.23)	29 (15.85)	76 (41.53)
Generic name	32 (17.49)	83 (45.35)	115 (62.84)
Old prescription	40 (21.86)	19 (10.38)	59 (32.24)
Signs and symptoms	40 (21.86)	26 (14.21)	66 (36.06)
Used packets	38 (20.76)	07 (3.82)	45 (24.59)
Others	01 (0.55)	00 (00.00)	01 (0.55)

Table 2: Distribution of medical students regarding awareness on drugs/medicine used by them for self-medication

A. Awareness about active component of medicine used for SM			
Response	1 st MBBS (n=90) n(%)	3 rd MBBS (n=93) n(%)	Total (n=183) n(%)
Yes	35 (19.13)	91 (49.73)	126 (68.85)
No	55 (30.05)	02 (1.09)	57 (31.15)
B. Awareness about side effect of medicine used for SM			
Yes	42 (22.95)	86 (46.99)	128 (69.95)
No	48 (26.23)	07 (3.83)	55 (30.05)
C. Awareness about dosage of medicine used for SM			
Yes	44 (24.04)	74 (40.44)	118 (64.48)
No	46 (25.14)	19 (10.38)	65 (35.52)

Table 3: Reasons for self-medication among medical students

Reasons	1 st MBBS (n=90) n(%)	3 rd MBBS (n=93) n(%)	Total (n=183) n(%)
Knew the medicine	65 (35.52)	78 (42.62)	143 (78.14)
Previous exposure	49 (26.77)	69 (37.70)	118 (64.48)
Trivial sickness	36 (19.67)	47 (25.68)	83 (45.35)
Busy lifestyle	07 (3.82)	09 (4.92)	16 (8.74)
Sm works faster	05 (2.73)	08 (4.37)	13 (7.10)
Similar medicine in the past	41 (22.40)	38 (20.76)	79 (43.17)
Negative attitude	01 (0.55)	00 (00.00)	01 (00.55)
Alternative medicine	06 (3.28)	01 (0.55)	07 (03.82)
Others	08 (4.37)	02 (1.09)	10 (05.46)

Table 4: Commonly used drugs/medicine for self-medication among medical students

Commonly used medicines	1 st MBBS (n=90) n(%)	3 rd MBBS (n=93) n(%)	Total (n=183) n(%)
Antipyretics	67 (36.61)	85 (46.45)	152 (83.06)
NSAID'S	41 (22.40)	77 (42.08)	118 (64.48)
Antacids	29 (15.85)	50 (27.32)	79 (43.17)
Antihistamines	23 (12.57)	64 (34.97)	87 (47.54)
Antiemetics	17 (9.29)	41 (22.40)	58 (31.69)
Antidiarrheal	23 (12.57)	30 (16.39)	53 (28.96)
Antispasmodic	16 (8.74)	18 (9.84)	34 (18.58)
Cough syrup	53 (28.96)	35 (19.12)	88 (48.09)
Nutritional supplements	14	18 (9.84)	32 (17.49)
Eye/ear drops	26 (14.21)	11 (6.01)	37 (20.22)
Skin ointment	31 (16.94)	31 (16.94)	62 (33.88)
Others	03 (1.64)	01 (0.55)	04 (2.19)

NSAID'S: Nonsteroidal anti-inflammatory drugs

In this study, 91.50% of medical students were practiced self-medication of this 93.00% were in 3rd MBBS and 90.00% are 1st MBBS. Which is consistency with a study conducted by Rai *et al.* with overall prevalence 95.37%.^[16] Patil *et al.* in their study noted that 86.33% and 85.37% were in 2nd semester and 6th semester of MBBS with an overall prevalence of 88.18%.^[17]

Pal *et al.*^[14] in their study noted little lower prevalence of self-medication among the medical students of ESIC Medical College, Joka, Kolkata (65.00%) (40.5% were in 2nd semester and 81.4% were in 6th semester) and this was consistent with other researchers, like a study by Jagadeesh *et al.* showed a prevalence of 66%.^[18] Researchers conducted outside India found the prevalence of self-medication varying from 43.24% reported in Mekelle University, 50.9% in a study in Saudi Arabia and even higher in a study in Serbia (79.9%), Jazan University (83.7%), and in a study conducted in Chitwan Medical College, Bharatpur, Nepal (84%).^[13,15,19-21]

In our study, we noted that majority of student (62.84%) were purchased/procure medicine by generic name of the drugs, 41.53% purchased by brand name, followed by telling sign and symptom (36.06%), with old prescription (32.24%) and showing used packet (24.59%) to pharmaceutical store.

Kasulkar and Gupta in their study at NKP Salve Institute of Medical Sciences and Research Centre, Nagpur, 76.4% procure from pharmacy, 11.2% from family/friends, 8.3% used unused medicine, and 13.2% free physician sample.^[22] Young adults are highly influenced by the media and the internet, where self-medication behavior is promoted.^[23] Hence, the supply of medicine without prescription by the pharmacist can prevent the growing trend of self-medication.^[24]

In present study, 49.73% of 3rd MBBS Medical student aware about active component of medicine, 46.99% are aware about side effects of medicine, 40.44% are aware about dosage of

medicine as compared to 1st MBBS medical students which were 19.13%, 22.95%, and 24.04%, respectively, and this difference was found to be statistically significant.

In a study conducted by Pal *et al.*^[14] found that (64%) of medical students were aware hazards due to increase in dose of antibiotics, adverse drug reactions of different antibiotics (65%) and about importance of completing the dosage schedule of antibiotics (56.7%), whereas a study in Nepal revealed the proportions to be rather lower (28%, 28%, 38.7%, 36%, and 17.3%, respectively) indicating poorer knowledge level of the participants than the current study.^[13]

In our study, we noted the reasons for self-medication, and we found that 78.14% do the self-medication as they knew the type of medicine to be used, 64.48% had previous exposure, 45.35% used for trivial sickness, 43.17% used similar medicine in past, 8.74% do self-medication due to busy lifestyle, and 7.10 said self-medication work faster.

Major reasons for the practice of self-medication, as found in Jayita Pal *et al.*^[16] study were minor illness (74.3%), followed by prior experience (48.1%) and quick relief (38.5%).^[14] The findings were in congruence with other studies.^[13,25] Gutema *et al.* in their study among health since students of Mekelle University found that prior experience (39.10%), mildness of the illness (37.50%), long waiting time (15.63%), and less costly (4.69%) were major reasons provided by the respondents for self-medication.^[19]

In our study, we found commonly used drugs for self-medication was antipyretics (83.06%) followed by NSAID's (64.48%), cough syrup (48.09%), antihistamines (47.54%), antacid (43.17%), skin ointment (33.88%), antiemetics (31.69%), antidiarrheal (28.96%), eye/ear drops (20.22%), antispasmodic (18.58%), nutritional supplements (17.49%), and others (2.19%).

In study conducted by Pal *et al.*,^[14] the most common drugs used in self-medication were antacids (81.2%), analgesics (72.1%), antipyretics (53.2%), antibiotics (43.3%), vitamins (34.7%), anti-allergic (24.5%), herbals (12.8%), antispasmodic (4.2%), sedatives (4.2%), and antidepressants (3.7%) which were also found to be consistent with other researchers.^[17,26]

While in study conducted Chitwan Medical College Teaching Hospital by Raj Kumar Mehta, Sujata Sharma noted that the most common drugs used are analgesics (75.8%), antacids (53.2%), and antipyretics and antispasmodic (46.8%) followed by antibiotics (40.3%), vitamins (37.1%), anti-allergies (35.5%), and herbal (30.6%).^[13]

Limitation

The study was based on self-reported data about self-medication in past 1 year hence recall bias cannot be ruled out. The study could have been more generalized if it was multicentric involving other medical colleges of this state. The study did not look into as to how many students have physicians in their family so their influence as a source of prescription cannot be ruled out.

CONCLUSION

From our study, we conclude that self-medication was quite common among undergraduate medical students of this institute, may be due to easy availability of drugs and information from textbook. Some of the students showed inadequate knowledge and inappropriate attitude toward some points regarding self-medication. The students harm themselves and also others by encouraging and helping them to form a habit of buying drugs without a proper prescription from a doctor. This topic can also be included in the undergraduate course by emphasizing the potential risks of self-medication. There is also a great responsibility of drug regulatory authorities and faculties about the control of self-medication by explaining the students about its harmful effects.

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