ORIGINAL ARTICLE

SELF-MEDICATION PRACTICES AMONG COLLEGE STUDENTS: A CROSS SECTIONAL STUDY IN GUJARAT

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ABSTRACT

Introduction: Self-medication is defined as the use of medication for self-treatment without advice of physician either for diagnosis, prescription or surveillance of treatment. Self medication increases the chances of illicit use of drug and drug dependency and most of all masking the sign and symptoms of underlying disease hence are complicating the problem, creating drug resistance and delaying diagnosis.

Methodology: This was a cross-sectional study done among total 100 3rd semester engineering students in Vidhyanagar, Gujarat. It is a questionnaire based study and history of self-medication in last 6 months was taken.

Results: Prevalence of self-medication among study participants was 88% in last 6 months. Out of total 100 students, 88% were male and 12% were female. Out of total 330 self-medications by study participants in last 6 months, maximum (43.03%) was from pain-relievers. 21.51% of self-medication was from cough remedies. 7.27% of the self-medication was of Antimicrobials. Amoxicilin was most commonly used as self medication by the study participants among antimicrobials. Pharmacy store was the most common source for self-medication. Other common sources were family members, friends and medicines remain during prior illness.

Conclusions: It is concluded from this study that self medication is found to be a common practice among the engineering students. Commonly used drugs are pain relievers, cough remedies and topical creams. Self-medication of antimicrobials is also high among study participants. Common source of information for self medication are pharmacist, friends and relatives.

Keywords: self-medication, drug, college student, pharmacy

INTRODUCTION

Self-medication is defined as the use of medication, whether modern or traditional, for self-treatment without advice of physician (expert in medical profession) either for diagnosis, prescription or surveillance of treatment.[1] It is a growing trend of 'self-care' which has its positive and negative aspects.[1,2]

In India, the *Drugs and Cosmetics Act,1940* (DCA), the *Drugs and Cosmetics Rules,1945* (DCR) regulates the import, manufacture, distribution and sale of drugs and cosmetics. The "OTC" (over the counter) has no legal implications in India.[3] Hence "OTC Drugs" means drugs legally allowed to be sold "Over The Counter" by pharmacists, i.e. without the prescription of a Registered Medical Practitioner. Prescription-only drugs are listed in *Schedules H and X* of the Drug and Cosmetics Rules. Drugs listed in *Schedule G* (mostly antihistamines) do not need prescription to purchase but require the following mandatory text on the label: "Caution: It is dangerous to take this preparation except under medical supervision".[4]

Self medication increases the chances of illicit use of drug[5] and drug dependency and most of all masking the sign and symptoms of underlying disease hence are complicating the problem, creating drug resistance and delaying diagnosis.[6-8] On the other hands self medication by the people who accept responsibility and are careful is a resource saving phenomenon to the health system. Easy availability of the drugs over the counter facilitates self medication. Self medication is a universal phenomenon and practiced globally with varied frequency. [9,10]

Studies on self-medication show that it is influenced by many factors, such as education, family, society, law, availability of drugs and exposure to advertisements mild illness, previous experience of treating similar illness, economic considerations and a lack of availability of health care personnel.[11,12]

In a developing country like India, easy availability of wide range of drugs coupled with inadequate health services result in increased proportion of self medication.[13] In several studies it has been found that inappropriate self-medication results in wastage of resources, increases resistance of pathogens and generally entails serious health hazards such as adverse drug reactions, prolonged suffering and drug dependence.[1,14] Habits of

self-medication among the college students reflect its prevalence in the future generation.

This study was planned to estimate the prevalence of self medication among the engineering students and to determine the factors affecting it.

METHODOLOGY

This was a cross-sectional study done among the 3rd semester engineering students of ADIT college in Vidhyanagar, Gujarat. There were 100 students in the 3rd semester all were ready to give consent and enrolled in the study. A questionnaire consisting of both open-ended and close-ended items is prepared. A briefing given about the nature of the study, and the procedure of completing the questionnaire was explained. Consenting participants were anonymously complete the questionnaire in the classroom. For the purpose of the study, certain operational terms were explained to the students. History of self-medication in last 6 months was taken.

For the study purpose self-medication is defined as the use of over-the-counter or prescription drugs, whether modern or traditional, for self-treatment, without prior consultation with a doctor. Medication is defined as any substance used for treatment or prevention of disease. It included modern scientific medications as well as medications from other health care systems.

Ethical clearance from Human Research Ethics Committee of the institute was taken. Data collected was entered in the Microsoft excel sheet and analyzed by SPSS version 17.0 Appropriate statistical tests were applied.

Limitation of the study: As the study was done in the limited population, further research is needed for universal implication of the results. For the convenience purpose, recalling method for last 6 month was used which has its own limitation. Further advance methods can give more precise results.

RESULTS

There were 100 engineering students studying in 3rd semester of ADIT college of Vidhyanagar, Gujarat and ready to give consent. The results of the study were as below.

Table 1: Gender wise distribution of participants

Self Medication	Male	Female
Taken (%)	77 (87.5)	11 (91.7)
Not Taken (%)	11 (12.5)	1 (8.3)
Total	**88 (100)**	**12 (100)**

p-Value – 0.5612; Odds Ratio : 0.6364 (0.0747 - 5.421)

Table 1 shows that, out of 100 study participants 88(88%) had used any form of self medication in last 6 months. Out of total 100 students, 88 (88%) were male and 12(12%) were female. Out of 88 males, 77 (87.5%) had taken any form of self-medication. Whereas, out of total 12 females, 11 (91.7%) had given history of self medication in last 6 months. This difference was not statistically significant [p-Value – 0.5612; Odds Ratio: 0.6364 (0.0747 - 5.421)]. This shows that, gender has not any significant effect on the self-medications

Table 2: Type of drugs participants had used in last 6 month (Multiple responses)

Type of drugs	Participants (%)
Pain Relievers	142 (43.03)
Cough Remedies	71 (21.51)
Creams	31 (9.39)
Antimicrobials	**24 (7.27)**
Anti allergy drugs	21 (6.36)
Anti Acidity drugs	20 (6.06)
Vitamins	14 (4.24)
Anti-diarrheal	6 (1.81)
Drugs for sleeplessness	1 (0.30)
Total	**330 (100.0)**

We had asked the participants regarding different drugs taken in last 6 months. After that we categorised these drugs in broad headings. These give us results as given in Table 2. As the participants had given history of different drugs even in single category, total was exceeding the number of participants even in single category. Out of total 330 self-medication by study participants in last 6 months, maximum i.e. 43.03% was from pain-relievers like Diclofenac, Paracetamol, Mefanamic acid etc. 21.51% of self-medication was from cough remedies. 7.27% of the self-medication was of Antimicrobials like Amoxicillin, Azithromycin, Levofloxacin, Chloroquine etc. Details of different antimicrobial used and their distribution according to gender of the participants is given in table 3.

Table 3: Different antimicrobial used in last 6 months

Antimicrobials	Male	Female	p-Value
Amoxicillin	10	1	0.608
Azithromycin	7	0	0.397
Chloroquine	3	0	0.679
Sparfloxacin	1	0	0.880
Other	2	0	0.773
Total	**23**	**1**	**0.308**

Table 3 demonstrate that, Amoxicilin was most commonly used as self medication by the study participants among antimicrobials. Out of total 88 participants giving history of self-medication, 24 (7.27%) had history of taking antimicrobials in last 6 months. Out of these 24 participants, majority were male. Only one female had taken antimicrobial as self-medication in last 6 month. This difference was not statistically significant (p-Value >0.05). Maximum number of participants had history of

Amoxicillin taken as self medication. After that Azithromycin and Chloroquine were used. Table shows that there was no statistical significant in male and females as per self-medication of each antimicrobial drugs.

Table 4: Source for medicine used by participants (n=88)

Source of medicines	Responses (%)
Pharmacy store	60 (68.18)
Family members and friends	24 (27.27)
Remaining medicines of prior illness	4 (4.54)
Total	**88 (100.0)**

Table 4 shows that pharmacy store was the most common source for self-medication. Out of total 88 participants that give history of self-medication, 68.18% had taken medicine from pharmacy stores. 27.27% of participants had taken medicine from family members and friends. 4.54% of participants had taken medicine that was remained during prior illness.

DISCUSSION

Self-medication is defined as the use of medication, whether modern or traditional, for self-treatment without advice of physician (expert in medical profession) either for diagnosis, prescription or surveillance of treatment. Experience from prior illness; advice from pharmacist, relatives and friends play major role in the self-medication. The participants of current study were 3rd semester engineering students. A questionnaire based cross-sectional study shows that prevalence of self-medication was 88% among study participants. This result was in consistent with study in Ahmedabad, Gujarat, which shows that prevalence of self-medication was 82%.[15] A similar study by PR Shankar et al in Nepal reported 59% of respondents taking self medication for one or other ailments.[16] Frequency of self reported medication is highly variable in different parts of the world; as low as 45% in Turkey to as high as 94% in Hong Kong.[17]

Out of total 100 participants, 88 were male and 12 were female. There was no statistically significant difference between males and females in regards to self-medication. Similar result was noted by Shahbaz Baig.[18]

Out of total 330 self-medication by study participants in last 6 months, maximum i.e. 43.03% was from pain-relievers like Diclofenac, Paracetamol, Mefanamic acid etc. 21.51% of self-medication was from cough remedies. Bhavna Puwar observed that the common drugs used for self medication were Paracetamol (43.64%), Aspirin (16.97%), Ibuprofen (12.12%) and cetrizine (12.73%).[15] Similarly PR Shankar et al also found the commonest drug used was Paracetamol in 69 instances (43%) followed by some other analgesic in 37 instances (23%).[16] Results other study showed that NSAIDs were the most common drugs used as self medications.[18] Study done among university students of Karachi also shows similar results that pain killers were used maximally (65.70%) as self-medication.[19]

Improper use of antimicrobials can lead to drug resistance. It is an important public health problem in today's world. Our study shows that 7.27% of the self-medication was of Antimicrobials like Amoxicillin, Azithromycin, Levofloxacin, Chloroquine etc. Yasmin et al at Karachi shows that prevalence of antibiotic use as self-medication is 12.10%.[19] Our study shows there is no statistically significant difference between male and female in terms of antibiotic self-medications.

Our study shows that pharmacy store was the most common source for self-medication. Other common sources were family members, friends and medicines remain during prior illness. Study in Ahmedabad found in 60% cases friends were the source of information for self medication and media (radio, Television, newspapers and magazine) in 35.8% and internet in 4.2% cases.[15] Similarly V D Phalke et al reported Advertisement in newspaper, TV, Radio and magazines as main sources followed by chemist shops.[20] Therefore it is necessary that pharmacist should take responsibility to avoid selling drugs without prescriptions.

CONCLUSION

Thus, it is concluded from this study that self medication is found to be a common practice among the engineering students. Commonly used drugs are pain relievers, cough remedies and topical creams. Self-medication of antimicrobials is also high among study participants. Common source of information for self medication are pharmacist, friends and relatives.

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