Prevalence of self-medication and its associated factors among students of an engineering college in Chennai

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ABSTRACT

Context: Self-medication in healthcare is becoming an increasingly important area. However, risks such as misdiagnosis, inappropriate drug dosage, extended time of use, drug interactions and polypharmacy are also associated with it. Aims: The present cross-sectional study aims to study the prevalence of self-medication and its associated factors among engineering students. Setting and Design: The present cross-sectional study was conducted in an engineering college in Chennai. Materials and Methods: A total of 199 participants were studied. A pretested semi-structured questionnaire including general information and specific questions regarding the prevalence of self-medication and its associated factors was given to the study participants and were instructed to fill them. Statistical Analysis Used: Data were recorded and analysed in the excel spreadsheet using SPSS software version 16 and Chi-square test was used to perform inferential statistical analysis. Results: 199 engineering students were studied, ranging from 1st year to 4th year between the age group of 17–25 years. From the data collected, 154 (77.4%) participants said they had been on self-medications before and 45 (22.6%) participants said they have never been on self-medication. Conclusions: From this study we come to a conclusion that the prevalence of self-medication among the engineering students in sub-urban Chennai is high that is 77.4%. The parameters frequently linked with self-medication are the type of illness and the easy access to drugs. Since self-medication is at an alarming rate, the need of the hour is to educate the youth to ensure healthy practice.

Keywords: Awareness, history of self-medication, most preferred drug, principal morbidity

Introduction

Self-medication has been described as the use of modern and/or traditional self-treatment medication without consulting a physician for either diagnosis, prescription, or treatment monitoring.[1] Therefore, the prevalence, determinants and risk factors associated with self-medication activities must be known among the different segments of the population in order to implement effective instructional, regulatory, and administrative interventions to reduce public health risks related to inappropriate activities.[2] India being a developing country is most prone to this trend of improper self-medication and thus there arises the need to monitor and curb these improper practices at the earliest.

Methodology

The present cross-sectional study was conducted in an engineering college in Chennai with the aim to study the prevalence of self-medication and its associated factors among engineering students. Undergraduate engineering students were included in the study, both male and female participants were included. Unwilling participants, students with chronic illnesses taking medications and students with diagnosed mental illness were not included in the study. A total of 199 participants...
were studied (Prevalence used was 85.4). The sample size was determined using the formula, \( N = \frac{Z^2 pq}{L^2} \). The sampling was done by simple random sampling (lottery method). A pretested semi-structured questionnaire including general information and specific questions regarding the prevalence of self-medication and its associated factors was given to the study participants and were instructed to fill them. The validation of the questionnaire had been accounted for and filled questionnaires were obtained from the participants. The questionnaire contained three sections—Section A comprised of sociodemographic details, Section B contained questions regarding prevalence of self-medication practices and Section C comprised of questions related to the factors associated with self-medication practices. The participants were requested to answer every question without fail. Every possible measure was taken so as to uphold the confidentiality that was promised to the participants in the first place. No personal information regarding the participants was let out and the participants were also provided with the contact number and address of the principal investigator. Any queries regarding the study was well appreciated and addressed to in the best manner possible. The participants were given the liberty to pull out of the study whenever they wanted if they felt unsafe or uncomfortable with the study. Data were recorded and analyzed in the excel spreadsheet using SPSS software version 16 and using the Chi-square test, statistical analysis was performed, and the frequencies and percentages were obtained.

Results

In total, 199 engineering students were studied, ranging from 1st year to 4th year of engineering between the age group of 17-25 years. The socio-demographic factors of the participants have been listed below in Table 1.

From the data collected, 154 (77.4%) participants said they had been on self-medications before and 45 (22.6%) participants said they have never been on self-medication. When asked the question about the principal morbidity for which they went for self-medication, 52 (26.13%) participants answered common cold, 64 (32.16%) participants answered headache, 36 (18.09%) participants told it was for fever, 17 (8.54%) participants told it was for pain in abdomen, 15 (7.53%) participants answered diarrhoea and 15 (7.53%) participants answered other morbidities [Table 2]. To the question “What do you feel were the major reasons for seeking self-medication?”, the two most common reasons were that 74 (37.19%) participants did not find it necessary to consult a doctor and 62 (31.16%) participants preferred to wait and watch. When asked about how frequent they’ve been on self-medication in the last 6 months these were the results [Figure 2].

To the question “Which would you prefer more for an illness?”, majority of the participants (52.8%) responded that they preferred to take a drug which was previously prescribed by a doctor. Majority of the participants (63.32%) answered they got to know about the drug as it had been previously prescribed by the doctor for similar illness. Amongst the 199 participants, 153 (76.9%) participants told that self-medication produced relief from their symptoms whereas the rest 46 (23.1%) participants told they had to visit the doctor anyway. Majority of the participants (63.82%) felt that they had more opportunities to self-medicate at home than in a hostel (36.18%). Out of the 199 participants, 164 (82.4%) participants answered that they knew other people who also self-medicate whereas the rest 35 (17.6%) answered they didn’t know any people who self-medicate. To the question “Are your parents aware of your self-medication practices?”, 144 (72.36%) participants answered “yes”, 36 (18.09%) participants answered “no” and 19 (9.55%) participants answered “not applicable”.

| Characteristic                  | Frequency (n) | Percentage |
|---------------------------------|---------------|------------|
| Respondents                     | 199           | 100        |
| Gender                          |               |            |
| Male                            | 98            | 49.2       |
| Female                          | 101           | 50.8       |
| Living sector                   |               |            |
| Urban                           | 169           | 84.9       |
| Rural                           | 31            | 15.1       |
| Type of family                  |               |            |
| Nuclear                         | 150           | 75.4       |
| Joint                           | 49            | 24.6       |
| Socioeconomic class (Modified BG Prasad Classification) | | |
| Upper lower                     | 18            | 9.04       |
| Lower middle                    | 40            | 20.1       |
| Upper middle                    | 75            | 37.69      |
| Upper                           | 66            | 33.17      |

| Characteristic                  | Frequency (n) | Percentage |
|---------------------------------|---------------|------------|
| Respondents                     | 199           | 100        |
| Morbidity                       |               |            |
| Common cold                     | 52            | 26.2       |
| Headache                        | 64            | 32.2       |
| Fever                           | 36            | 18.1       |
| Pain in abdomen                 | 17            | 8.5        |
| Diarrhoea                       | 15            | 7.5        |
| Others                          | 15            | 7.5        |
Discussion

Self-medication is becoming one of the highly important areas within healthcare. This moves the patients towards greater autonomy in making decisions regarding management of minor illnesses and thereby fostering empowerment. However, risks such as misdiagnosis, inappropriate drug dosage, extended time of use, drug interactions, and polypharmacy are also associated with this. The latter may be particularly troublesome for the elderly.10

The present study was conducted to assess the prevalence of self-medication and its associated factors among the students of an engineering college in Chennai. The mean age of the respondents was 21.18 and the standard deviation was 1.3 and there was almost equal representation from both males and females. In the current study it was found out that 77.4% of the participants had been on self-medications before which was a similar finding in previous studies conducted by Meysam Behzadifar et al. in which 70.1% students practised self-medication and another in south Tamil Nadu in which 80.13%, practiced self-medication.8,3 The principal morbidity for which self-medication was done was found out to be headache and common cold which was similar to the findings of a previous study where the predominant ailment that led to self-medication in their study was headache (42.7%), followed by cough and cold (21.1%).8 Out of the 199 participants, maximum number of participants told they preferred to use pain killers (34.7%) followed by antibiotics (22.6%), anti-pyretics (15.6%), cough suppressants (13.6%), and antacids (5.03%). Bhavna Puwar found that Paracetamol (43.64%), Aspirin (16.97%), Ibuprofen (12.12%), and cetrizine (12.73%) were the most common medications used.7 The current study shows that the preferred source for obtaining the medicines were from the pharmacy store itself which was similar to the findings in a previous study in Gujarat and also another study in Uganda where the majority of respondents accessed these drugs from the pharmacy (56%), friends/family (17%) or clinics (15%).8,9 From the study it was found out that 69.4% of the participants were aware of the side-effects and 85.4% of the participants checked the expiry date of the drug before consuming them which was a similar finding to a previous study conducted in Ahmedabad.7 The two most common reasons for self-medications from the current study were 37.19% participants did not find it necessary to consult a doctor and 31.16% participants preferred to wait and watch, this was almost similar to a study conducted in North India among nursing students where majority stated the reason for self-medication that it provides quick relief (44%), 32% find it a way to avoid going to the doctor.8,9 The two key reasons given by the respondents for self-medication were prior experience (39.10%) and mildness of the illness (37.50%) in another related study.5 Majority of the participants (63.32%) answered they got to know about the drug as it had been previously prescribed by the doctor for similar illness whereas another study in South Tamil Nadu found that during their previous illness, 80.82% students learned self-medication from doctors’ prescriptions provided during their prior illness and friends, pharmacist, advertisements and books comprised 36.98%, 31.2%, 13.11% and 7.0% respectively.8 Almost 77% of the participants told that self-medication provided quick relief from the symptoms of disease which was similar to the findings in a previous study in Kannur, Kerala.11 One more important finding of the current study was that most of the participants were comfortable to indulge in self-medication from the comfort of their homes with the knowledge of their parents which points us to the answer that self-medication has become a common aspect in one’s life. From our current study it is pretty evident that the prevalence of self-medication has gone up and it is still on the rise, therefore the need for creating awareness about the proper and safe use of the drugs has become all the more important. Monitoring systems, a collaboration between patients, doctors and pharmacists and the provision of education and information to all concerned on safe self-medication are some of the suggested strategies to optimise benefit and reduce risk.

Conclusion

From the study it is pretty evident that, the prevalence of self-medication among the engineering students in sub-urban Chennai is high and also the associated factors which lead
to self-medication and its promotion are also becoming a common thing amongst the youth. One of the alarming results obtained was that 138 (69.4%) participants were aware of the side effects of the drug before self-medicating. A good chunk (85.4%) of the study group were aware of the expiry date of a drug before taking the medication. One of the positive findings in the study was that most participants told that self-medication brought them quick relief from their ailments, which instigates us to focus on promoting the safe and proper use of the drugs when necessary. Here is where this paper is relevant to the practice of primary care physicians because they have a huge role in educating the patients about safe self-medication practice and how they can benefit from that and along with that proper and clear information regarding the ill-effects of unsafe practices of the same. Since self-medication is at an alarming rate, the need of the hour is to educate the youth to ensure healthy practice. Inputs such as fundamentals of pharmacology, adverse effects of drugs, and prescribed medications and their significance are highly important for awareness campaigns to teach students about different aspects of self-medication. This will enlighten the students about the irrational use of medicines in terms of self-medication and will also direct the development of different strategies for health education that are needed to educate students and the broader community.

| Associated factors | Self-medication practice | Total (n=199, 100%) | P |
|--------------------|--------------------------|---------------------|---|
| Source of drugs    |                          |                     |   |
| Pharmacy           | 93 (80.2%)               | 23 (19.8%)          | 116 (100%) | 0.029 |
| Home               | 50 (80.6%)               | 12 (19.4%)          | 62 (100%)  |
| Peers              | 7 (58.3%)                | 5 (41.7%)           | 12 (100%)  |
| Others             | 4 (44.4%)                | 5 (55.6%)           | 9 (100%)   |
| Side-effects       |                          |                     |   |
| Aware              | 117 (84.8%)              | 21 (15.2%)          | 138 (100%) | 0.000176 |
| Unaware            | 37 (60.7%)               | 24 (39.3%)          | 61 (100%)  |
| Expiry date        |                          |                     |   |
| Aware              | 136 (80%)                | 34 (20%)            | 170 (100%) | 0.033 |
| Unaware            | 18 (62.1%)               | 11 (37.9%)          | 29 (100%)  |
| Relieved           | 134 (81.7%)              | 30 (18.3%)          | 164 (100%) | 0.0016 |
| No relief          | 20 (57.1%)               | 15 (42.9%)          | 35 (100%)  |
| Parents awareness  |                          |                     |   |
| Aware              | 122 (84.7%)              | 22 (15.3%)          | 144 (100%) | <0.00001 |
| Unaware            | 25 (69.4%)               | 11 (30.6%)          | 36 (100%)  |
| N/A                | 7 (36.8%)                | 12 (63.2%)          | 19 (100%)  |

Conflicts of interest
There are no conflicts of interest.

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