

To assess the perception about self-medication practices for oral health problems among patients attending dental hospital of Pune city- A Cross-sectional Questionnaire study

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Abstract

Objective: To assess the perception about self-medication practices for oral health problems among patients attending dental hospital of Pune city.

Methods: A descriptive cross-sectional study was conducted among patients attending the dental hospital in Pune city, India. The reporting of the study was done according to Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines. A self-administered validated 18- item questionnaire, was administered among patients.

Descriptive statistics was performed in terms of mean, standard deviation and frequency and percentage. Pearson’s chi square test was applied to check statistical significance and p value <0.05 was taken as statistical significance.

Results: A total of 500 study subjects were included in study, out of which 46% were males and 54% were females. From the response of the respondents, it was observed that more than 50% of the participants had taken self-medication, toothache was the major reason for provoking the need to take self-medication, it was

taken when there was a need with the duration being for till the condition completely subsided. Painkillers were the majority class of medication that were being taken and the reason was being the personal knowledge. The medications were taken from a medical store which was situated in less than 2 km. Majority of participants had prescription and also the pharmacist did not ask for a prescription while giving medicine. Minor illnesses were the main reason for medicine consumption and a temporary relief was observed. Patients still visited dental hospital as the symptoms still persisted. Patients were aware about the side effects of medications and they did not experience any adverse effects; among the patients experiencing side effects ($p < 0.05$).

Conclusion: Self-medication is highly prevalent among the patients attending the dental hospital as medications are effortlessly accessible at the medical store and they can easily take the medicine without the prescription of the doctor/ specialist which is wrong on part of the community as they are not aware about the harmful effects of medications at time. Strict laws should also be planned by the concerned experts/authorities that without prescription of doctors no medicine and prescription should be given to anyone at the medical store or pharmacy.

Keywords: dentists, oral health problem, pharmacist, self-medication, survey

Introduction

Medications have a significant role in the public health practice. Medications are medicines which are prescribed by the health care professionals for treating any illness or symptoms. In recent years, lay public are progressively more concerned about their health-care by active involvement in decision making.¹ Plenty of medicines are formulated in this modern era of life, every day. William Osler once said that “a desire to take

medicine is perhaps a great feature which distinguishes man from animals”.²

The World Health Organization (WHO) defines self-medications “the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continuous use of a prescribed drug for chronic or recurrent diseases or symptoms”.³ It also includes getting medicines without a valid prescription, or giving old prescriptions to purchase the medicines, sharing medicines among relatives, friends or using any leftover medicines which are stored at home.⁴ It is common for people to feel unwell, and humans have an inherent tendency to use herbs, potions, medications, etc for treating themselves. Every day people around the world act on their own to improvise their health; they practice self-care.⁵ The World Health Organization (WHO) defines self-care as the prime public health resource in the healthcare system. Self-medication is a component of self-care, which is shooting up. World health organization has emphasized that self-medication must be correctly taught and controlled.⁶

There are certain groups of medications available as 'over the counter' or 'non-prescription' medications which means medications available from the pharmacy without the prescription from a general physician.⁷ They are available easily and have a comparatively low profile of adverse 3 effects when taken in appropriate dosages. In some countries, over the counter products are also available in supermarkets and other commercial outlets.⁸ Self-medication includes the use of a wide variety of medicines including analgesics, antimalarial, antibiotics and cough syrups, among others non-prescription drugs and a range of alternative medicines are the herbal remedies and traditional products.⁹ Self-medication with antibiotics, has been widely reported, leading the WHO to call attention to the dangers of self-medication as a

cause of antibiotic resistance. Studies have shown that the influence of self-medication practice is multi-factorial, such as education, family, society, laws and legislations, easy availability of drugs and exposure to advertisements and media etc.¹⁰

Self-medication can be seen as a two-sided sword. In several studies, it has been proven that injudicious practice of self-medication results in wastage of resources, increases resistance of microbes and poses serious health hazards such as adverse drug reactions, drug dependence, etc.⁹ On the other hand, if done with appropriate supervision and sufficient knowledge, self-medication can prove to be a game changer in acute medical problems, and can cut down long waiting doctor appointments, may be economical and can even save lives in acute emergency condition.¹⁰

Among the youthful ones, sources of medication knowledge include relatives, particularly, the mother (for therapeutic purposes), peer groups, and the illegal market (for addiction purpose).¹¹ Individual of all sociodemographic classes practice self-medication. Recent advances in medication research have provided many synthetic medicines for the treatment of disease, prompting to a drug explosion. Today, 7000 medications and drug combinations are available.¹² Many of them have been released for general utilization and are sold directly to the people in general as OTC remedies. Advertisements on television, newspapers, and other pharmaceutical distributions have enhanced the rate of self-medication.¹⁶ In financially deprived groups, most scenes of ailments are treated by self-medication.¹³

The prevalence of irresponsible self-medication is high all over the world, and it is a very common practice, both in the economically deprived communities as much as it is in economically privileged communities.¹⁴ Countries like India, where universal access to health

care is yet to be achieved, self-medication is an important health issue, as it is one of the most common and preferred mode used by the patients.¹⁵ In India, Schedule H (prescription drug Schedule H 1(antibiotics and other restricted medications) can be sold by a legally qualified registered pharmacist upon presentation of valid prescription as per Drug and Act of 1940.¹⁶ Though these laws are implemented, they are not strictly followed by the pharmacists which ultimately lead to the development of increased self-medication practices.¹⁴ Self-medication practice can lead to Anti-Microbial (AMR) which means a microorganism no longer responds to a drug to which it was originally sensitive; which means that standard treatments no longer work, and the infections are harder or impossible to control. The risk of to others is increased and hospital stays are prolonged, with added economic and social costs.¹⁷

Henceforth, knowledge on behavioural viewpoints related to medication utilization is required to enhance and expand the information base on health services seeking behaviour. Despite the fact that self-medication is difficult to eliminate, intervention can be made to demoralize the rampant practice. Thus, this study was conducted to assess the perception about self-medication practices for oral health problems among patients attending dental hospital of Pune city.

Methodology

The reporting of the study was done according to Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.¹⁸

A cross-sectional, question-based survey was carried out among among patients attending dental hospital. Participants were selected randomly with no age or gender bias. The study protocol was approved by institutional ethical committee (IEC).

After the ethical approval from Institutional Ethical Review Committee (IERC) to conduct this study, a self-administered validated interview-based questionnaire was used and their responses were collected using a custom Google form. The participants were asked to anonymously answer the questions relevant to them.

Questionnaire validity and reliability testing

A questionnaire was developed in accordance with the research objectives. The questionnaire was tested for face and content validity. Twenty- five participants with similar background were interviewed and asked to complete the survey. Their opinion on whether a question should be included or not was also evaluated using a yes or no question format. Moreover, the clarity of each question was discussed with each evaluator. Kappa statistics were calculated, and the survey was adjusted according to the results.

Survey distribution

The survey included questions with no sub-questions. The estimated time to complete the survey was 8-10 minutes. Some subjects were approached randomly in-person to complete the survey.

Sample size: To calculate the sample size for the present study, the following formula was used-

$$n = \frac{p(100-p)z^2}{E^2}$$

n is the required sample size

P is the percentage occurrence of a state or condition

E is the percentage maximum error required

Z is the value corresponding to level of confidence required

Based on the above formula, a sample size of 500 was derived

Statistical analysis

All the data was entered in Microsoft excel sheet. Statistical analysis was performed with Statistical

Package for Social Sciences (IBM SPSS Statistic for window, version 21.0. Armonk, NY: IBM Corp.) at 95% CI with 5% alpha and 80% power to the study. Descriptive statistics was performed in terms of mean, standard deviation and frequency and percentage. Pearsons's chi square test was applied to check statistical significance and p value <0.05 was taken as statistical significance.

Results

A total of 500 study subjects were included in study, out of which 46% were males and 54% were females. The participants were divided into three age ranges; first age range of 20-25 years with 29% participants, second age range of 25-30 years with 35% participants and third range were for more than 30 years with 36% participants. As shown in table 1 below.

Table 1: showing descriptive demographic characteristics of participants.

Descriptive data		
Gender	Number of responses (Frequency)	Percentage
Male	230	46
Female	270	54
Descriptive data		
Age (range)	Number of responses (Frequency)	Percentage
20-25	145	29
25-30	175	35
More than 30	180	36

Table 2: showing response to the questionnaire.

1. Do you take self-medication ?	Percent	Chi - square	P value
Yes	72.5	31.84	P<0.001**
No	27.5		
2. Why did you feel the need to take medicines?	Percent	Chi - square	P value
Toothache	45.8	52.83	P<0.001**
Gum bleeding	10.1		
Swelling	15.1		
Bad breath	5.3		
Ulcers	2.9		
Fever	17.6		
Other	3.2		
3. How many times have you taken medicines on your own?	Percent	Chi - square	P value
More than once in 2 months	24.4	22.39	P<0.001**
More than once in 6 months	12.8		
Very frequently	20.3		
As and when required	42.5		
4. Since how long have you been taking the medicines on your own?	Percent	Chi - square	P value
Few days	37.2	42.87	P<0.001**
Few weeks	9.8		
Till condition subsides	44.1		
Other	8.9		
5. What is the type of medicines you have taken?	Percent	Chi - square	P value
Pain killers	55.6	32.72	P<0.001**
Antibiotics	25.3		
Ice packs	5		
Clove	4.7		
others	9.4		
6. Who suggested you to take medicines on your own?	Percent	Chi - square	P value
Relatives	19.1	19.96	P<0.001**
Friends	11.3		
Personal knowledge	32.3		
Pharmacist	24.3		
Mass media	7		
Others	6.5		

7. From where did you buy the medicines?	Percent	Chi - square	P value
Medical store	75.3	47.29	P<0.001**
Hospital/pharmacy	16.8		
Other	8		
8. How far is the nearest medical store from your house/office?	Percent	Chi - square	P value
Less than 2 kms	69.3	16.38	P<0.001**
2 - 5 kms	23.6		
more than 5 kms	7.1		
9. Did you have the prescription for the medicines?	Percent	Chi - square	P value
Yes	76.2	33.16	P<0.001**
No	23.8		
10. Did the pharmacist ask for the prescription?	Percent	Chi - square	P value
No	73.2	27.86	P<0.003**
Yes	26.8		
11. What were the reasons for you take medication on your own?	Percent	Chi - square	P value
Lack of money to visit a doctor	13.3	35.01	P<0.003**
Lack of time to visit a doctor	27.1		
Minor illness	42.3		
Unavailability of doctors	5		
Traditional / religious believes	2.4		
Others	9.9		
12. What was the response after taking medicines?	Percent	Chi - square	P value
Temporary pain relief	54.7	25.87	P<0.002**
Permanent pain relief	17.4		
Unsure about effects	22.1		
Less expensive	3		
others	2.8		
13. Even after taking medication on your own, why are you visiting the dental hospital?	Percent	Chi - square	P value
The pain/problem still persists	50	17.37	P<0.001**
The infection hasn't subsided	26.3		
Others	23.7		
14. Are you aware about the side effects of taking medicines on your own?	Percent	Chi - square	P value

Yes	59.9	28.65	P<0.001**
No	40.1		
15. Did you experience any side effects of the medicines?	Percent	Chi - square	P value
Yes	18.7	18.19	P<0.004**
No	81.3		
16. If yes, since how long have you been experiencing sidee effects?	Percent	Chi - square	P value
Nil	38.7	24.16	P<0.004**
One week	25.7		
Five days	30.3		
Pain for a week	5.3		

From the response of the respondants, it was observed that around 72.5% of the participants had taken self-medication, toothache was the major reason for provoking the need to take self-medication, it was taken when there was a need with the duration being for till the condition completely subsided. Painkillers were the majority class of medication that were being taken and the reason was being the personal knowledge. The medications were taken from a medical store which was situated in less than 2 km. Majority of participants had prescription and also the pharmacist did not ask for a prescription while giving medicine. Minor illnesses were the main reason for medicine consumption and a temporary relief was observed. Patients still visited dental hospital as the symptoms still persisted. Patients were aware about the side effects of medications and they did not experience any adverse effects; among the patients experiencing side effects ($p<0.05$).

Discussion

This cross-sectional study was carried out among patients visiting a dental hospital in Pune city, to assess the knowledge, attitude and practice of self-medication for oral health problems. Even in developed countries like United States, it has been seen that the misuse of non-prescription drugs causes tens of thousands of unnecessary hospitalizations each year.¹⁹

This study included a total of 362 participants. The results of the study revealed that more than 50% of the participants had taken self-medication, toothache was the major reason for provoking the need to take self-medication, it was taken when there was a need with the duration being for till the condition completely subsided. Painkillers were the majority class of medication that were being taken and the reason was being the personal knowledge. The medications were taken from a medical store which was situated in less than 2 km. Majority of participants had prescription and also the pharmacist did not ask for a prescription while giving medicine. Minor illnesses were the main reason for medicine consumption and a temporary relief was observed. Patients still visited dental hospital as the symptoms still persisted. Patients were aware about the side effects of medications and they did not experience any adverse effects; among the patients experiencing side effects ($p<0.05$).

The discrepancy in the results could be due to the variations in the socio-economic backgrounds of the involved participants and also due to the differences in the methodologies adapted by the respective studies.¹⁹ This high prevalence could be due to the easy availability of the drugs in India without proper prescription, from pharmacies or medical stores.²⁰

Self-medication risks in developing countries are reportedly higher than those in industrialized countries. This can be associated with the fact that prescription drugs are readily available in developing countries.²¹ It can also be attributed to the malfunctioning healthcare systems in developing countries and the fact that drug regulations are limited or do not apply to self-medication.²² However, in industrialized countries, this act is more of a consumer luxury because it is guided by relatively responsible information gained from books, magazines, prescription inserts, and other media.²³

It is common for people to experience sickness and health problems with an inherent tendency to act on their own health in the form of self-care.²⁴ Governments of some countries encourage forms of self-care, which includes self-medication. This has the benefit of patients taking responsibility for their health, in turn promoting patient empowerment. On the other hand, inappropriate use has its own perils in the form of increased resistance to microbes, serious health hazards, wastage of resources etc.²⁵ Although self-medication is very difficult to eliminate, stringent steps are required to discourage unsupervised and injudicious practice and to reduce it to the barest minimum by adequate and consistent dental health education. The physician should be more judicious in prescribing medications.²⁶ This study indicates the necessity to create awareness about normal and adverse drug reactions. Stricter policies and regulations with carefully planned monitoring is needed from the Central Drugs Standard Control Organization, Government of India.

Conclusion

Self-medication is highly prevalent among the patients attending the dental hospital as medications are effortlessly accessible at the medical store and they can easily take the medicine without the prescription of the

doctor/ specialist which is wrong on part of the community as they are not aware about the harmful effects of medications at time. To create awareness about the drug reactions and its side effects due to self-medication, health education sessions should be conducted. Strict laws should also be planned by the concerned experts/authorities that without prescription of doctors no medicine and prescription should be given to anyone at the medical store or pharmacy.

The study has its own limitations. The study results cannot be generalized to the normal population because, the patients who were sick and visiting a dental hospital are only involved in the study. The data were solely based on the self-report which increase the likelihood of recall bias, also there could be memory bias in occasional users. This study was restricted to use of self-medication to allopathic drugs only. We found that medications of other systems of medicine were very common in use, which also requires further research in order to find their effects. Future studies should be directed to understand the various factors like education, income, socioeconomic status influencing the self-medication.

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