

## A survey on consequences of self-medication versus prescribed medication

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### ABSTRACT

**Aim:** The aim of the present study was to compare pattern of self-medication and prescribed medication among the population in Chennai, India, and to tabulate results and thereby creating awareness on population. **Materials and Methods:** A questionnaire consisting of 15 questions were framed based on knowledge and usage of self-administered drugs as well as prescribed drugs. They were given to 100 people aged between 20 and 50 years without any gender difference. This study has a self-developed questionnaire, related to various aspects of self-medication and prescribed medication. A pre-tested interviewed administered questionnaire, with 17 questions was distributed to participants. **Results:** Among 100 respondents, 72 respondents practice self-medication, while only 28 people choose prescribed the medication by a registered medical practitioner. Adverse reactions, lack of knowledge about dose, the frequency of administration, and chances of taking the wrong medicine were the major drawbacks of self-medication reported. The frequently reported illness that prompted self-medication includes headache, cough, fever, diarrhea, and acidity. **Conclusion:** Usage of over-the-counter (OTC) drugs was highest among common population. Time consumption for consultation, financial crisis, availability of OTC drugs, and the predictability of doctor's general prescription were the commonly mentioned reasons for self-medication. Hence, proper education and awareness must be created to help patients decide on proper medications.

**KEY WORDS:** Antibiotics, Awareness, Over the counter, Prescribed drugs, Self-medication

### INTRODUCTION

Self-medication is the use of drugs with therapeutic intent but without any professional advice or prescription. It has also been defined as the use of non-prescription medicines on their own initiative.<sup>[1]</sup> On the other hand, prescribed medication is the use of medication under the supervision of a registered medical practitioner. Drug retail shops frequently serve as the public's first point of contact with the health-care system.<sup>[2]</sup> In India, pharmacists and pharmacy attendants play an important role in fostering self-medication among the public.<sup>[3]</sup> Self-medication can cause resistance to bacteria and may lead to the emergence of multiple resistant organisms that would be difficult to treat.<sup>[4-7]</sup> Studies on self-medication patterns and the prevalence of doctor prescribing in India show an increasing number of

patients developing resistance to the commonly used antibiotics. The most commonly available over-the-counter (OTC) medicines in Chennai are analgesics, nonsteroidal anti-inflammatory drugs (NSAIDs), antihistaminic, vitamin supplements, tonics, and cough and cold remedies. Although these medications are considered safe, their excessive use can lead to serious adverse effects.

In India, the Drugs and Cosmetics Act, 1940 (DCA), and the Drugs and Cosmetics Rules, 1945 (DCR), regulate the import, manufacture, distribution, and sale of drugs and cosmetics. The "OTC" has no legal implications in India.<sup>[8]</sup> Hence, "OTC Drugs" mean drugs legally allowed to be sold "OTC" by pharmacists, that is, without the prescription of a registered medical practitioner. Prescription-only drugs are listed in Schedules H and X of the Drugs and Cosmetics Rules. Few drugs which are scheduled under G do not need the prescription to purchase but require the following mandatory text on the label: Caution: It is dangerous to take this preparation except

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under medical supervision.<sup>[9]</sup> In several studies, it has been found that inappropriate self-medication can generally cause serious health hazards such as adverse drug reactions and drug dependence.<sup>[10]</sup>

Self-medication is now increasing as a component of self-care.<sup>[3]</sup> Unlike other aspects of self-care, self-medication involves the use of drugs and these drugs have the potential to do good as well as harm. Self-medication can save the time, may be economical but due to its improper use of correct dose, side effects, and interactions can lead to serious implications.<sup>[11]</sup> Therefore, the study was taken up to analyze the population at risk, in extend to various aspects of self-medication and prescribed medication and create awareness of the adverse effects among the participants.

## MATERIALS AND METHODS

A questionnaire consisting of 15 questions were framed based on knowledge and usage of self-administrated drugs as well as prescribed drugs and they were given to 100 people. This was a cross-sectional study and has a self-developed questionnaire, consisting of both open- and closed-ended questions related to various aspects of self-medication and prescribed medication which were most commonly employed. The study population consisted of the common population of Chennai, between the age group of 20 and 50 years. People were explained about the aim and purpose of the study and concept of self-medication and prescribed medication was clearly explained and discussed with them before the survey. The respondents were interviewed with the questions and corresponding answers were marked.

The questionnaire was in two parts. The first part had questions on demographic information of the respondents such as name, age, and gender. The second part contained questions on core issues which dealt on direct questions such as reasons for self-medication, most common drugs used for self-medication, type of ailment treated through self-medication, factors influencing discomforts of self-medication practices, and also knowledge about drug resistance. The questionnaire was framed in such a way for easy understanding and filling by respondents. The questionnaire was also backed by a moral interview. Some of the questions asked during the interview section were: Do you think self-medication is a good practice? Do you think education will help reduce the incidence of self-medication?

The aim of the present study was to obtain the baseline data and factors influencing self-medication and prescribed medication of drugs in Chennai

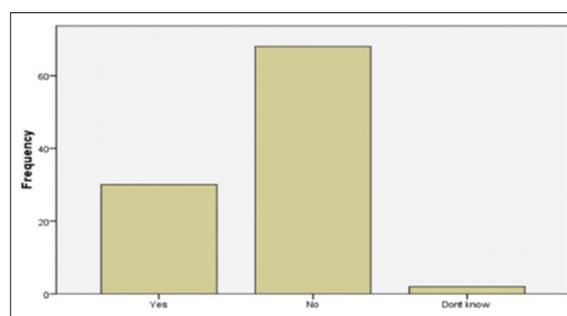
city, in order to create an awareness about the drug interactions and adverse effects on self-medication.

Data obtained from the questionnaire were coded, given sequential numbers, and entered into the Statistical Package for the Social Sciences (SPSS), version 16, software. The analysis was carried out using descriptive statistics and prevalence of self-medication along with prescribed medication, among population were measured in percentages. Descriptive analysis was employed to present bar charts for appropriate results.

## RESULTS

A total of 100 respondents were covered during this entire study. The age distributions of the responders were between the age of 20 and 50 years. Of 100 responders, 59 were male and the rest 41 were female. These 100 responders were from various professions from Chennai district selected randomly for this survey. Coming to the results of administrating self-medication drugs in comparison to doctor's prescription drugs, when enquired about whether self-medication is good practice or not, 68% of responders accepted it is not good, while remaining 30% of responders said that it is not bad, followed by 2% who does not know about it [Graph 1]. When we enquired them about source of drug information, they responded that they gained knowledge from doctors (48%), internet (24%), friends (14%), media (7%), and relatives (4%), while remaining (3%) learned from academic knowledge [Graph 2].

According to the (28%) responders, fever and cold are major reasons that demand them visiting doctors, followed by continuous headache (27%) and diarrhea (24%). In this study, only 63% of responders have completed the course of medication under prescription. 62% of responders said that they will visit the doctor for the second time, if the problem persists, while 38% responded that they will buy the same drugs OTC, which was earlier prescribed by the doctors. From this survey, we identified that confidence in self-medication (41%) was the main reason for administrating self-medication followed

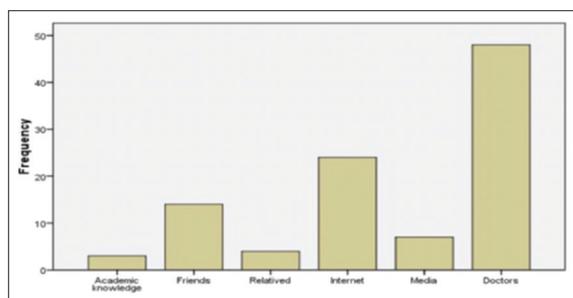


Graph 1: Is self-medication a good practice?

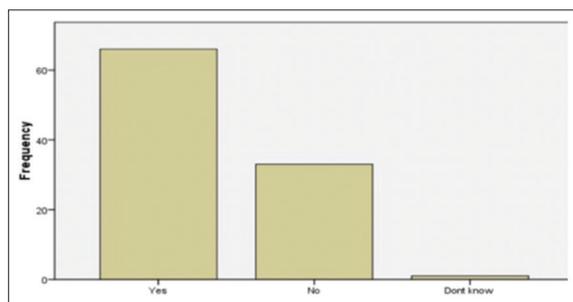
by the financial crisis (35%) and time consumption (15%).

We also noticed that 66% of responders were aware that drugs taken through self-medication have many disadvantages, while 33% came up with a thought, it does not have any sort of adverse effects while remaining 1% does not have any idea about it [Graph 3]. Even though self-medication has many side effects, 54% of responders do not experience any side effects, while 31% had severe side effects due to wrong self-medication, remaining 15% were not sure about it [Graph 4]. When enquired about the safety of physician-prescribed medication in sequence to self-medicated ones, 93% of responders were absolutely sure that prescribed drugs are safe, while 7% of individuals said even prescribed drugs may not be safe always.

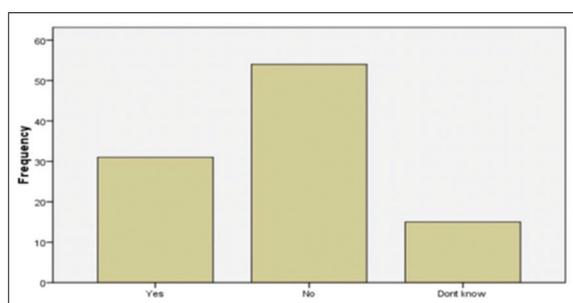
Interestingly, 79% of responders said that they did not experience any hospitalization due to adverse effects



Graph 2: Source of drug information?



Graph 3: Are you aware that drugs taken through self-medication have many disadvantages?

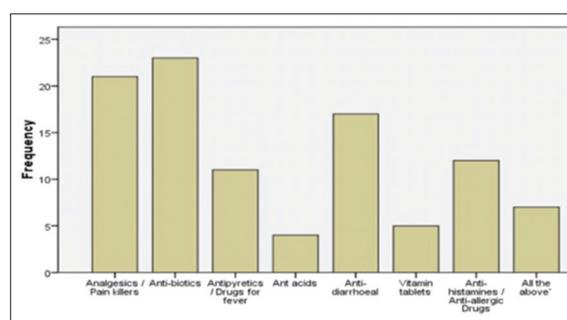


Graph 4: Have you experienced adverse effects due to over-the-counter drugs?

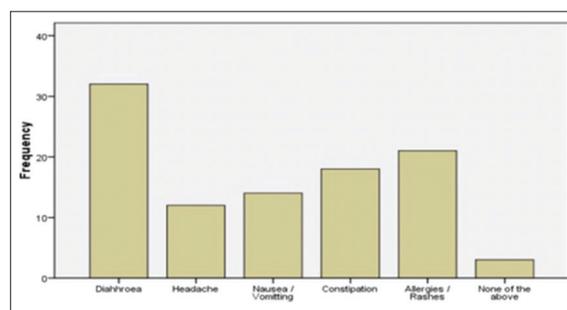
of self-medication, while 14% went on hospitalization for further treatment due to its side effects, while 7% of individuals were not sure about it. According to the responders, the most commonly used OTC drugs were antibiotics (21%), analgesics (21%), and anti-diarrheal (17%) followed by antihistamines (12%) [Graph 5]. We also found that 63% of responders are not aware that antibiotic must be taken for complete dose due to its resistance, while just 32% of responders know about it, followed by 5% of individuals who do not even have any clue about it. We also identified the most common discomforts that people experience while administering self-medication, they were diarrhea (32%), allergies and rashes (21%), constipation (18%), nausea/vomiting (14%), and headache (12%), and remaining (3%) does not have any discomforts [Graph 6]. When we enquired about their knowledge about drugs used for common problem, 47% of people responded that they have good knowledge, 36% responded that they have the average knowledge, while remaining 17% have no idea about any drugs or drug names. Even after 47% of individuals said, they have good knowledge about drugs still 89% of individuals have no clue about combination drugs like H2 blockers for NSAIDs, while only 11% of people knew about it and responded it is to counteract gastric irritation.

## DISCUSSION

Our study shows that majority of the responders were aware of OTC drugs and self-medication is widely practiced among them when compared to prescribed medication. Confidence in self-medication, a financial



Graph 5: Most commonly used over-the-counter drug?



Graph 6: Most common discomforts administering self-medicated drug?

crisis, etc., were some of the reasons for using OTC drugs. Antibiotics and analgesics were the drugs most commonly used for self-medication. Male sex and age between 25 and 40 years were associated with increased self-medication. Time consumption for consultation, the financial crisis, availability of OTC drugs, and predictability of doctor's general prescription were the commonly mentioned reasons for self-medication. Diarrhea and headache were the most common reasons for self-medication. We found drugs, especially antibiotics were not taken for the proper course, which can lead to serious resistance in future. Education to help patients decide on the appropriateness of self-medication is required.

Self-medication is defined as the use of medication without the advice of physician or expert in the medical profession. Experience from prior illness; advice from pharmacist, relatives and friends play a major role in self-medication. Of total 100 responders, 59 were male and 41 were female. There was no statistically significant difference between males and females in regard to self-medication. A similar result was noted by Shahbaz.<sup>[12]</sup> According to one study, the most common reason of self-medication was not being in need, for a doctor in diseases widely seen and the most common form of obtaining medication was directly from a pharmacist without the prescription.<sup>[13]</sup>

The prevalence of self-medication has been found among 81.5% of individuals in a rural area in Maharashtra. More male patients used self-medication compared to females, contrary to data from Western reports.<sup>[14]</sup> A questionnaire-based cross-sectional study showed that the prevalence of self-medication was about 88% among study participants. The frequency of self-medication is highly variable in different parts of the world, as low as 45% in Turkey to as high as 94% in Hong Kong.<sup>[15]</sup>

Some authors reported that previous experience was one of the major reasons for self-medication besides unavailability of doctors and transport, ability to self-manage, an urgency to treat, assumption of better knowledge, lack of time, and cost of treatment were the other contributing factors. However, our study proves that they are not only the reason but also the confidence in self-medication drugs (41%), the financial crisis (35%), and time consumption (15%) was also the main reason for administering self-medication.

In our study, we enquired them about source of drug information, they responded that they gained knowledge from doctors' prescription (48%), internet (24%), friends (14%), media (7%), and relatives (4%), while remaining (3%) learned from academic knowledge. Similarly, advertisement in the newspaper

and media as main sources followed by chemist shops. Therefore, it is necessary that pharmacist should take responsibility to avoid selling drugs without prescriptions.

Pharmacists play a valuable role in identifying, solving, and preventing drug-related problems for achieving optimal patient outcomes and quality of life. Ambulatory-based pharmacists have the responsibility to appropriate, effective, and economical use of all medications, especially those therapies patients are self-selecting. Pharmacists should guide their customers to consult the physician before taking any medication by self.<sup>[16-18]</sup>

Whenever a drug is prescribed to a person, he/she should be given instructions to the person's comprehensive levels so that it will be helpful for them to understand the impacts of it and also encourage them to adopt alternative methods to relieve their symptoms instead of using self-mediation, thereby preventing the ill effects of self-medication such as drug dependence and drug abuse.<sup>[19]</sup>

The economic barriers and familial competition have the potential to prompt an individual to indulge in self-medication.<sup>[20]</sup>

The prevalence of medicine storage in room leads to practice of self-medication. Analgesics and antibiotics are being the most common types of medicine present in residence.<sup>[21]</sup>

Self-medication was practiced with a range of drugs from the conventional anti-pains to antibiotics. Although the practice of self-medication is inevitable, drug authorities and health professionals need to educate students about the pros and cons of self-medication.<sup>[22,23]</sup>

By taking inappropriate drugs, the results can be 2-fold. These drugs do not cure the actual pathology. It produces unwanted side effects which affect the patient.<sup>[24]</sup>

An antimicrobial is an agent that kills microorganisms or inhibits their growth. Antimicrobials can be grouped according to the microorganisms, they act primarily against. They are ones which help in building up resistance.<sup>[25]</sup>

Doctors and pharmacists play a very important role in creating awareness about self-medication by educating the patients. Hence, it is suggested that the public education is mandatory on the type of illness for self-diagnosis and its medication, along with an implementation of stringent rules and regulations on their use. It is also essential to highlight the dangers of OTCs on their misuse.

## CONCLUSION

Our study shows that majority of the responders were aware of OTC drugs and self-medication is widely practiced among them when compared to prescribed medication. Confidence in self-medication and financial crisis were the main reasons for using OTC drug. Antibiotics and analgesics were the drugs most commonly used for self-medication. Male sex and age between 25 and 40 years were associated with increased self-medication. Time consumption for consultation, the financial crisis, availability of OTC drugs, and predictability of doctor's general prescription were the commonly mentioned reasons for self-medication. Diarrhea and headache were the most common reasons for self-medication. We found drugs, especially antibiotics were not taken for the proper course, which can lead to serious resistance in future. Education to help patients decide on the appropriateness of self-medication is required. Self-medication is an alarming sign for society. It was analyzed that most of them were not aware of the drug, dosage, the frequency of administration, and adverse reactions. While very little people were aware of these medications. Drugs, especially antimicrobials, which were not taken for the proper duration, can lead to serious resistance. Moreover, there are many drugs which are new to the market and many are banned due to side effects. Hence, proper education and awareness must be created to help patients decide on proper medications, which can save the lives from unnecessary complications.

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