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## Self-Medication and Its Challenges: A Review.

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### ABSTRACT

W.H.O has defined Self-Medication as "the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms". It is obtaining and consuming one or more drugs without the advice of a physician either for diagnosis, prescription or surveillance of the treatment. Self-medication also involves resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home. Self-medication is a common practice and internationally has been reported as being on rise. In economically deprived countries, most episode of illness are treated by self medication. In a number of developing countries many drugs are dispensed over the counter without medical supervision. Inappropriate self-medication however may result in serious health hazards such as adverse drug reactions, drug dependence, and increased resistance of pathogens.

**Keywords:** medication practices, Over the Counter, drug usage.

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## INTRODUCTION

Self medication is defined as the use or intake of any medication by a Patient on his own initiative or on the advice of a Pharmacist or a lay person instead of consulting a medical practitioner. It is a behavioral response of individuals to promote or restore their health. Self medication with drugs is an economical choice of treatment for common self limiting illnesses [1]. Self-medication which is one form of self-care is an important initial response to illness [2]. In several studies it has been found that inappropriate self-medication causes wastage of resources, increases resistance of pathogens and generally causes serious health hazards such as adverse drug reactions, prolonged suffering and drug dependence. [3, 4] The prevalence of self-medication in developing countries is reported to be in the range of 12.7% to 95%. [5,6]. In Nepal, self-medication was 59% [7] while the estimate in India was 31%. [8]

A wide variation has been reported in India. For example, a study conducted in the coastal region of urban Puducherry had shown 11.9% prevalence of self-medication to in preceding 3 months. [9] A study in Puducherry showed the prevalence as high as 71%. [10]. A study in urban Delhi showed that prevalence of self-medication among those who had suffered some illness episode in the last 1 month was 31.3%. [11].

In Europe, estimates have been as high as 68%. [12] Britain has reported prevalence estimates from 60% to 70%. [13] In an urban community in Portugal, self-medication prevalence was 26.2% in urban and 21.5% in rural sectors. Self-medication is becoming an increasingly important component of health care in both developing and developed countries because of easy availability of wide range of drugs, lack of time and knowledge about the medication's side effects and costlier health services. Self-medication is more common among women, young people, those living alone, individuals of low socio-economic status (SES), sufferers of chronic ailments and psychiatric conditions. [14,15]

Previous studies in different populations have revealed that self-medication is influenced by many factors such as education, family, society, law, availability of drugs, and exposure to advertisements. [6,12,15,16]

Also, previous studies emphasize on high level of education and professional status as the predictive factors for self-medication. [11]

### OTC Drugs

Means drugs legally allowed to be sold 'Over The Counter', i.e. without the prescription of a Registered Medical Practitioner. In India, though the phrase has no legal recognition, all the drugs that are not included in the list of 'prescription drugs' are considered as non-prescription drugs (or OTC drugs). Prescription Drugs are those that fall under two schedules of the Drug and Cosmetics Rules, 1945: Schedule H and Schedule X. Internationally, the use of OTC medications has been reported as being on the rise [17, 18, 19, 20]. Various studies have shown that the use of OTC drugs is twice as common as that of prescribed medication [17,18] 'Most commonly available OTC medications are pain killers, cough and cold remedies, anti-allergy medicines, vitamins and energy tonics. Although these medications are considered risk-free and useful for the treatment of common health problems, their excessive use can also lead to serious side-effects and unfavorable reactions.

### PROBLEMS ARISING DUE TO SELF –MEDICATION

#### For The Patient

The most frequently reported reasons of self-medication are having a minor illness, escalating health care costs, lack of adequate time to visit a physician, prior experience in using a drug and long waiting time to visit a qualified practitioner. The most commonly used drugs for self-medication are analgesics and antipyretics. Self-medication not only causes many health problems like drug side effects and drug allergies, but also may lead to incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease and risk of dependence and abuse. One could also become addicted to prescription drugs such as antacids, cough syrups and pain relievers. Irrational use of

drugs may also result in accidental drug poisoning. Analgesics can induce severe gastritis and can also increase risk of stroke by four times in patients with high BP. Family and relatives, friends, information received based on previous prescription of drugs by a physician and pharmacist are the most frequently reported source of information for self medicators. They receive Un-professional advice about efficacy of several drugs to treat different diseases from these sources.

### **Doctors and Pharmacists**

The major problems/challenges a doctor has to encounter while treating people who self-medicate frequently are misdiagnosing of the illness and indiscriminate use of antibiotics. A minor health issue which could be resolved easily with the doctor's advice may become a major problem over time. Symptoms may subside temporarily with self-medication, but it would become difficult for a doctor to correctly diagnose and treat later.

When antibiotics are used correctly, they are among the most important drugs. When they are overused or inappropriately used, however, they contribute to a troublesome, increasingly worrisome problem in patient care: the development of antimicrobial resistant pathogens. Consequently, the antibiotic may become ineffective when taken in the future. Concomitant drug use both prescribed and self-medicated is not uncommon. So Pharmacists and prescribers should ask their clients whether they are taking other drugs during the time of dispensing and prescribing, respectively.

It is important that the pharmacists are talking to patients about the drugs they dispense. Unfortunately, there is not a one-to-one correspondence between telling and knowing and knowing and doing. Patients take information and process it with their own cognitive framework, which is based upon their interpretation of their own experiences. The meaning that the patient attaches to the information may be quite different from the meaning that the pharmacist attaches to the information. Understanding the drug-taking process from the patient's point of view can help the pharmacist help the patient to make better decisions about their medication taking and related health behaviours. Thus, in dispensing medications, counselling patients and monitoring drug therapy, the pharmacist needs to understand not only the disease, but also the illness, i.e. patients perception and interpretation of their diseases [20, 21]

### **Healthcare System**

The practice of self medication often has many adverse effects and can lead to many problems, including the global emergence of Multi-Drug Resistant pathogens, drug dependence and addiction, masking of malignant and potentially fatal diseases, hazard of misdiagnosis, problems relating to over and under dosaging, drug interactions and tragedies relating to the side effect profile of specific drugs[21-26].

The OTC Committee of the Organization of Pharmaceutical Producers of India (OPPI) is working towards the promotion of responsible self-medication with a view to grow the OTC sector. It is aiming to get regulatory support for issues such as the accessibility of household TC remedies and increasing the awareness of the importance of responsible self-medication with the general public and the Government

Access to medical care and satisfaction with pharmacy services are important predictors of self-medication. In many settings, patient's satisfaction with the health care provider has been identified as an important factor affecting self-medication.[12,27,28,29]

### **Aim**

In this article, we aim to review the challenges involved in controlling Self- Medication practices

### **Methods**

Medline, Amed, Scopus, Medlib, SID, Pub Med, Science Direct, and super searcher of Google Scholar were scrutinized using "self-medication", "self-prescription" and "self-treatment" key words without a time limit. Authors independently assessed the title, abstract and full text of identified articles for inclusion and any

disagreement was resolved with consensus. 50 national and international journals on the self medication were reviewed for their findings and report on different parameters.

## DISCUSSION

In developing countries people are not only using non-prescription drugs but also prescription drugs, as self-medication products, without supervision. By definition, a drug is a chemical that is intended to affect the structure and function of some physiological component of the body [12].

Analgesics and antipyretics were the most commonly used class of drugs as reported in several studies [6, 13, 27]. This is because such drugs are applied to treat uncomplicated common illness such as headache, fever and pain. Over-the-counter drugs selected and utilized properly, can be highly effective in ameliorating symptoms while avoiding trivial or unnecessary physician office visits and more expensive, but not always more effective, prescription drug use [12]. The common reasons for self-medication are the illness being too trivial, time saving and for quick relief. The irrational use of drugs is a cause of public and professional concern. Self-medication as part of self-care can be justified only when there is a judicious use of medicines.

There is always a risk of using expired drugs, sharing them with friends or taking medicine that have been originally prescribed for some other problem. Antimicrobial resistance is another problem worldwide particularly in developing countries where antibiotics are often available without a prescription [30]. In a telephone based population survey in the USA, it was observed that 58% of the participants were not aware of the possible health danger associated with antibiotic use [29]. Although it is true that self medication can help treat minor ailments that do not require medical consultation and hence reduce the pressure on medical services particularly in the underprivileged countries with limited health care resources, the availability of the more complex drugs groups such as antibiotics without prescriptions is a source of great concern.

## Recommendations

- A significant number of people who practice self medication are unaware of the adverse effects of the medication that they themselves take and suggest to others. Since inappropriate self-medication has the potential to cause serious harm, not only to the people themselves but also to those whom they suggest medication, potential problems of self-medication should be emphasized to the general population to minimize this risk.
- Particular attention and specific advice/counselling should be provided during self-medication for all drug consumers, particularly, to drug consumers such as pregnant and breast-feeding women, children, elderly and the chronically ill drug consumers.
- Potential problems of self-medication should be emphasized to the students by conducting awareness classes by medical faculty. Rational use of drugs- restricting the availability of drugs to those without medical prescriptions.
- The public and sometimes the health care providers have to be educated on category of illnesses that are amenable to self-diagnosis and on drug products that can be consumed by self-medication. The public have to be aware of the fact that even if those category of illnesses that can be treated and drugs that can be self-medicated do require the advice and closer attention of the health care providers. The public has to be educated and told every time those similar symptoms may not mean the same illnesses. And also knowing the name of the drug and dose does not qualify for adequate knowledge of drugs.
- Restriction of sale of drugs with potentially harmful effects should be implemented effectively with monitoring systems between the physicians and pharmacists. Steps can also be taken to educate pharmacists on the need to cross-check with the prescribing physician while dispensing such drugs.
- Health care providers have to advice or counsel about the drugs dispensed irrespective of the level of knowledge of the client.
- Active participation of health care professionals, specially Physicians and pharmacist, pharmaceutical industry, government regulations and continuous inspection by the competent authorities is important.
- Strong policies should be applied prohibiting the supply of medicines without a valid prescription. The youth, especially the females should be educated and made aware about the implications of self-medication.

## CONCLUSION

There is no doubt about the role or contribution of self-medication to the health service. Nevertheless, self-medication has to be within the limits as to the kind of illnesses to be self-diagnosed and treated, and the type of drug products that can be consumed. To avoid or minimize the danger of self medication, there is a need to carry out educational campaign to alert population about the use of many OTC medicines available in market. Easy availability and accessibility to health care facilities play a major role in reducing the practice of self-medication.

## REFERENCES

- [1] Rohit K Verma, Lalit Mohan, Manisha Pandey. Evaluation of self medication among professional students in North India ,Vol.3 Issue 1, January-March 2010
- [2] <http://apps.who.int/medicinedocs/pdf/whozip32e/whozip32e.pdf>
- [3] Hughes CM, McElnay JC, Fleming GF. *Drug Saf* 2001;24:1027–1037.
- [4] James H, Handu SS, Khalid AJ, Khaja A, Ootom S, Sequeira RP. *Med Princ Pract* 2006;15:270–275.
- [5] Kasilo OJ, Nhachi CF, Mutangadura EF. *Cent Afr J Med* 1991; 37(6): 167-171
- [6] Figueiras A, Caamano F, Gestal OJ. *Eur JEpidemiol.* 2000; 16(1): 19-26.
- [7] Shankar PR, Partha P, shenoy N. *BMC Fam Pract.* 2002; 3: 17
- [8] Deshpande SG, Tiwari R. *Indian J Med Sci* 1997; 51: 93-6.
- [9] Selvaraj K, S GK, Ramalingam A. *Perspect Clin Res* 2014;5:32-6
- [10] Balamurugan E, Ganesh K. *Br J Med Pr* 2011;4.
- [11] Lal V, Goswami A, Anand K. *Indian J Public Health* 2007;51:249-51.
- [12] Bretagne JF, Richard Molyoivd B, Honnorat C, Caekaert, Barthelemy P. *Presse Med* 2006; 35: 23-31.
- [13] Lam CLK, Catarivas MG, Munro C, Lauder IJ. *Soc Sci Med* 1994; 39(12): 1641-47
- [14] Shankar PR, Partha P, shenoy N. *BMC Fam Pract.* 2002; 3: 17
- [15] Sharma R, Verma U, Sharma CL, Kapoor B. *Indian J Pharmacol* 2005; 37(1): 37-45.
- [16] Deshpande SG, Tiwari R. *Indian J Med Sci* 1997; 51: 93-6.
- [17] Hussain A, Khanum A. *Southern Med Review* 2008; 1(1): 14-16.
- [18] Betsy S., et al. *Soc Sci Med* 2001; 53(3): 357-369.
- [19] Badiger S, Kundapur R, Jain A, Kumar A, Patanashetty S, Thakolkaran N, Bhat, Ullal N. *AMJ* 2012;5(4):217-220.
- [20] Kilwein JH. *The Pharmacist and public health* P.389 in: Albert I. Wertheimer, Mickey C. Smith, editors. *Pharmacy Practice, Social and Behavioural Aspects*, third edition 1989, Williams and Wilkins publishing, USA.
- [21] Vucic VA, Trkulja V, Lackovic Z. *Croat Med J* 2005; 46: 74-80.
- [22] Bauchner H, Wise P. *Lancet* 2000; 355: 1480-84.
- [23] Calabresi P, Cupini LM. *Trends Pharmacol Sci* 2005; 26: 62-8.
- [24] French L, Horton J, Matousek M. *J Fam Pract* 2004; 53: 805-14.
- [25] Ashina S, Zeeberg P, Jensen RH, Ashina M. [Medication overuse headache]. *Ugeskr Laeger* 2006; 168: 1015-9.
- [26] Assael L. *J Oral Maxillofac Surg* 2006; 64: 1331-2.
- [27] Nunes de Melo M, Madureira B, Nunes Ferreira AP, Mendez Z, Miranda Ada C, Martins AP. *Pharm World Sci* 2006; 28(1):19-25
- [28] Montastruc JL, Bagheri H, Geraud T, Lapeyre-Mestre M. 1997 ;52(2):105-10
- [29] Vanden Eng J, Marcus R, Hadler JL, Imhoff B, Vugia DJ, et al. *Emerg Infect Dis* 2003;9(9):1128–1135.
- [30] Azevedo MM, Pinheiro C, Yaphe J, Baltazar F. *BMC Public Health* 2009;23: 359.