

**SELF-MEDICATION AND THEIR CONSEQUENCES: A CHALLENGE TO HEALTH PROFESSIONAL**

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**ABSTRACT**

The use of medicament without concerning registered medical practitioner is increasing day by day. Unawareness about safe and rational use of medicine may lead to serious consequences which is difficult to overcome. The adverse consequences of such practices should always be emphasized to the community and steps to curb it. Rampant irrational use of antibiotics without medical guidance may result in greater probability of inappropriate, incorrect, or undue therapy, missed diagnosis, delays in appropriate treatment, pathogen resistance, and increased morbidity. The present review deals the reason, hazards, and prevention of potential risk associated with self-medication.

**Keywords:** Self-medication, Antibiotic resistance, Self-care.

**INTRODUCTION**

The World Health Organization (WHO) and the International Pharmaceutical Federation define self-medication as a run through by which a human being selects and uses medicines to treat signs/symptoms or minor health problems, recognized as such by themselves [1,2]. When done appropriately, self-medication can help the individual's health and is documented by the WHO as part of self-care [1,3]. Self-care is understood as what people do by themselves to inaugurate and maintain health, preventing, and dealing with disease. This concept of self-care includes health, nutrition, lifestyle, socio-economic, and environmental factors, as well as self-medication [1,3].

Lately, people have taken greater personal responsibility for their health and are seeking more information and facts to make pertinent decisions about their treatment either from reliable sources or from other questionable sources such as health issues related websites [2,4]. In the treatment of minor illness, when problems are self-limited, self-care can be used to take care of them. According to the Winfield and Richards [5], the principles for considering health problems as a minor illness include having a limited duration and being perceived as non-threatening to the patient. In the international arena, such as in developed countries there is a change in the treatment of these minor ailments, i.e. illness, sickness, disorders, etc., through using self-care, encouraged by drug policies around the countries worldwide. For government institutions, this can reduce costs and distractions on minor ailments while allowing health professionals to focus on more serious health problems. When this condition occurs of self-care, and when the management of these ailments is accomplished through drugs or medicinal plants, it becomes self-medication. In this case, pharmacist direction is important to guarantee a responsible self-medication plan. It is estimated that in the United States, some 100-150 million general physician consultations a year are related to conditions that could be self-treated. In recent decades, the role of pharmacist's has been changed, being not only as drug dispenser at a pharmacy store but acting as part of a multidisciplinary team involved in health care [1,6]. It is essential to highlight the convenience of consumers to the pharmacists, those working in either the public sector, in private pharmacies and hospital pharmacy. Confirming such responsibility of pharmacist, Loyola Filho *et al.* found a significant association between pharmacist consultation and the use of non-prescribed drugs in Bambuí, Minas Gerais [7].

Each year, thousands of new products are launched in the drug market as over-the-counter (OTC) medicines, and community pharmacists

working in public sectors are in an excellent position to provide correct information on the use of these drugs to the patients [8,9]. Even for the sale of OTC drugs, the prescription is not required by the patient, but they can cause adverse drug reactions or side effects if taken incorrectly. It is striking that in Brazil, 35% of medicine are traded as self-medication [10]. While self-medication can produce good results and be a useful practice for the patient [1,9,11], but it can also cause serious health risks such as bacterial resistance, dependence, digestive bleeding, antibiotic resistance, tolerance, cross tolerance, hypersensitivity reactions, drug withdrawal symptoms, adverse drug reactions, as well as increase the risk of neoplasia. In addition to these risks, it should be highlighted that the momentary relief of symptoms may actually mask the underlying disease or cause of disease [10,12]. The indiscriminate use of medicines can also increase the chances of intoxication, according to the National System of Toxic-Pharmacological Information (*Sistema Nacional de Informações Tóxico-Farmacológicas - SINITOX*) [13]; medicines are the 2<sup>nd</sup>-most frequent causative agents of intoxication in humans.

Medicines are responsible for 26% of intoxication recorded in the country in 2005, where only 590 cases were a result of self-medication [13]. In a self-care context when there is need for medicines to the patient, the clinical pharmacist has a key role in assisting to identify the best involvement. This may include transfer to another health professional (general physician), suggesting a different non-pharmacological therapy, helping to choose an OTC medicine that is safe and effective, and ensuring that it is used correctly by patient [1,11,14]. Therefore, responsible self-medication encourages the rational use of medicines. According to the WHO, the rational use of medicines is regarded as a situation in which the patient receives the appropriate medicine for their clinical need, at a correct dosage, for an appropriate period of time, and at a lower cost to themselves and the community (WHO, 2002). However, to ensure responsible self-medication practice, it is necessary for pharmaceutical establishments to have a standardized sequence or check on the actions of a particular patient's care procedure to manage care adequately. An initiative in this direction was taken by the European Union which has developed protocols for minor disorders that help in the interview and decision-making stages [15].

**WORLDWIDE SCENARIO OF SELF-MEDICATION**

The concept of self-medication encourages an individual to look after minor illnesses with simple and effective remedies which has been adopted worldwide [16]. People hold the view that the medicine should be used in the event of any sickness or discomfort or easiness. In the

United Kingdom, where on the average 50% of health care takes place within the realm of self-medication itself [17]. Self-medication is very common now a days among people, and it is being used worldwide [18]. The % of people using self-medication worldwide is shown in Fig. 1.

### REASONS OF SELF-MEDICATION

Studies on the use of self-medication have showed that the increase in self-medication was due to a number of factors such as socio-economic factors, lifestyle, ready access to drugs, the increased potential to manage certain ailments through self-care, and greater availability of medicinal goods in the market. The patient serenity with the healthcare provider, long waiting times, cost of the drugs, educational level, age, and gender are the other important factors influences self-medication. One of the most common reasons for indulging in self-medication includes high-cost fees of private doctor's consultations. The condition is worst in rural or distant corners, where the people are deprived socially, economically, and educationally and illiterate with inadequate health facilities. In another study, prior familiarity and the non-seriousness of the illness were the top two reported factors for self-medication and reading materials were the top reported source of information on self-medication. The patient's valuation of his illness has been minor was also identified as one of the major factors for self-medication in a study conducted in Nigeria [19-25]. Although, OTC drugs are intended to be used as self-medication and are of established efficacy and safety but their inappropriate use due to lack of knowledge of their side effects and drug interactions could have a serious consequence, especially in special population groups such as children, elderly, pregnant, and lactating mothers [26].

### POSITIVE OUTCOMES OF SELF-MEDICATION

Self-medication also has advantages for healthcare systems as it facilitates better use of clinical skills, increases access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programs [26].

### HAZARDS OF SELF-MEDICATION

#### Individual level

- Inaccurate self-diagnosis
- Failure to inquire about suitable medical advice promptly
- Inaccurate choice of therapy
- Fail to recognize unusual pharmacological risks
- Uncommon but severe adverse effects
- Fail to diagnosis of contraindications, interactions, warnings, and precautions
- Fail to distinguish that the same active substance is already being taken under a different name
- Fail to report recent self-medication to the prescribing physician (double medication/harmful interaction)

- Fail to recognize or report adverse drug reactions
- Incorrect route of administration
- Excessive dosage
- Excessively prolonged use
- Risk of dependence and abuse
- Food and drug interaction
- Storage in incorrect conditions or beyond the recommended shelf life [27].

#### Community level

Improper self-medication could result in an increase in drug-induced disease, tolerance, resistance in the body, and in wasteful public expenditure [27].

### PREVENTION OF POTENTIAL RISKS ASSOCIATED WITH SELF-MEDICATION

Health professionals are one who has a potential role in preventing risks of self-medication in patients who do not know the risks of doing self-medication. This is because health professional is the one who work on three main therapeutic aspects of professionalism in his daily basis practice: Information, therapeutic advice, and education [28].

#### Information

Whenever health professional is prescribing drugs to the patient, he should give proper instructions and explanation for what the drug is prescribed for so that it will be helpful for the patient to understand and making his own decisions. Given information of drug should be at patient's understanding level so that it will be helpful for them to understand its management [28].

#### Therapeutic advice

Lack of therapeutic compliance to the patient is a serious problem in both acute and chronic treatments and reflects a poorly understood or incomplete description of the treatment aims being given by the health professional. If patients are not well informed, they will not use the medication correctly. However, if the instructions for use and the limitations of a given drug are explained, for example, dose, frequency of dose, treatment course, route of administration, etc., then patients has a set of guidelines which will help them to use the drug rationally. Inappropriate, erratic, and unfit self-medication, along with the lack of compliance, will only be reduced among patients if they are informed and are made to understand clearly why certain advice has been given to them about a certain drug [28].

#### Education

Inappropriate self-medication is the result of the medical model from which people have learnt about self-medication. Proper health education should be given to the patients on a regular basis by the government. By adopting an educational attitude, we can have an effect on large sectors of the population who directly influence their friends and family. This aspect is of particular importance with respect to the self-medication of children by their parents or caretakers [28].

#### Role of pharmacist

The pharmacist is one of the key role players in educating the customers about the proper use of medicines, which are intended for self-medication such as OTC drugs. For that necessary steps have to be taken in their training and practice programs [29]. Pharmacists play an important role in identifying, solving, and preventing drug related problems for the purpose of achieving optimal patient health and quality of life. Ambulatory-based pharmacists have an opportunity and responsibility to foster the safe, appropriate, effective, and economical use of all medications, especially for those therapies which patients are self-selecting. Pharmacists should guide their customers to consult the physician before taking any medication as self [30-32]. Unlike above role, pharmacists have the following function as:

#### Communicator

To address the condition of the patient properly, the pharmacist must tell the patient about the key points and pass on relevant information

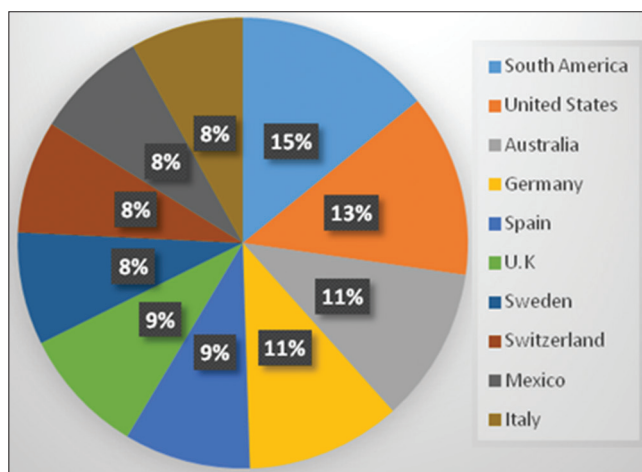


Fig. 1: Percentage of people using self-medication worldwide

to him or her → e.g., How to take the medicines, frequency of doses and how to deal with safety issues [28,33].

#### Quality drug supplier

The pharmacist must ensure that the products which the patient is purchasing are from reputable sources and of good quality [28,33].

#### Trainer and supervisor

To achieve this, the pharmacist must develop a protocol for a referral to the pharmacist, protocols for community health workers involved with the handling and distribution of medicines [28,33,34].

#### Collaborator

It is authoritative that pharmacists develop quality collaborative relationships with the other health care professionals such as with doctors and nurses, national professional associations, the pharmaceutical industry, governments (local/national), patients and general public, and hospitals [28,33,35].

#### Health promoter

As a member of the health-care team, the pharmacist must participate in health screening to identify health problems and those at risk in the community, participate in health promotion campaigns to raise awareness of health issues and disease prevention in public and provide advice to individuals to help them make informed health choices [28,33].

### PROMOTION OF RESPONSIBLE SELF-MEDICATION

The OTC Committee of the Organization of Pharmaceutical Producers of India is working toward the promotion of responsible self-medication with a view to growing the OTC sector in the market. It is aiming to get supervisory 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 [34]. Many healthcare organizations have made important statements on self-care and self-medication, singly or jointly with WSMI. Some selected illustrations only are given here [35]. The WHO: "It has become widely accepted that self-medication has an important place in the health care system. Recognition of the responsibility of individuals for their own health and awareness that professional care for minor ailments is often unnecessary has contributed to this view. Improvements in people's general knowledge, level of education and socio-economic status in many countries form a reasonable basis for successful self-medication" [35]. The FIP: "To have good health, people are becoming more responsible, getting proper information as much as possible to decide in their own care. Pharmacists and the manufacturers of non-prescription medicines share the common goals of providing high-quality service to the public and encouraging the responsible use of medicines" (Joint Statement by The FIP and the WSMI, 1999) [35]. The international council of nurses (ICN): "Self-medication is a key component of self-care that is particularly significant in an era of increasing chronic illness and well-informed health care consumers. Optimizing responsible self-medication is an important and underused resource for health and provides an opportunity for collaboration and consultation among consumers, nurses, pharmacists, and physicians" (Joint Statement by the ICN and the WSMI, 2003) [35].

### CONCLUSION

Self-medication of antibiotic is an alarming concept. This survey focused on the self-medication of allopathic drugs, their use, its safety, and reason for using it. It would be safe and if the people who are using it, have sufficient knowledge about its dose, time of intake, side effect on over dose, but due to lack of information, it can cause serious effects such as antibiotic resistance, skin problem, hypersensitivity, and allergy.

Hence, developing country like India where we have poor economic status, education status as well as poor health care facilities. People have less knowledge regarding risks associated with their self-medication

of antibiotics. We are on the edge of sword whether to promote self-medication or not. Hence, it is recommended that holistic approach should be taken to prevent this problem, which includes proper awareness and education regarding the self-medication and strictness regarding pharmaceutical advertising. Dispensing modes in the needs to be improved through proper education, strict regulatory, and managerial strategies to make health care easily accessible and cost-effective. Health professionals have to spend some extra time in educating patients regarding the same. Improved knowledge and understanding about self-medication may result in rationale use and thus limit emerging microbial resistance issues.

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