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SELF-MEDICATION WITHOUT PROPER KNOWLEDGE: A RISKY SHORTCUT TO HEALTH

ABSTRACT

Self-medication (SM) is a widespread and expanding practice. Antibiotic resistance, the possibility of adverse drug reactions, drug-drug combinations, increased therapeutic action, and increased morbidity make it a public health concern. Self-medication can be defined as using drugs or pharmaceuticals without a prescription from a doctor. Known as “Over the counter” or “Non-prescription,” these medications are available for purchase at pharmacies and other retail establishments. This phenomenon is an increasing trend today.

This article’s goal is to examine the medical literature in order to describe the public’s current perception, reasons, risk, prevention and practice of self-medication. It is crucial to avoid self-medication as it might result in drug addiction, allergies, habituation, deterioration of the condition, incorrect diagnosis and dosage, incapacity, and even death.

This study emphasizes the necessity for agreement in order to appropriately suggest solutions, emphasize their significance, and outline different aspects of (SM) for dealing with this widespread health issue.

INTRODUCTION

Self-medication (SM) can also be defined as getting and ingesting drugs without the advice of a professional either for diagnosis, prescription or surveillance of treatment ^{(1) (2)}. It is reckless, unethical, and dangerous for pharmacists to perform self-medication. A doctor who treats himself is a fool for a patients and even bigger mistake for a doctor according to medical professionals ⁽³⁾.

The availability of drugs combined with expertise can give medical practitioners a false sense of assurance. It has been noted that self-medication is related with the “paradox of familiarity,” in which an individual believes they are immune to the consequences of drug addiction despite having just a cursory awareness of pharmaceuticals and the associated risks.

The taking of medications, herbs, or home remedies on one’s own initiative, or on the advice of another person, without seeing a doctor,” is (SM) according to the traditional definition of self-medication.

As a sort of self-care for our health, self-medication is a common practice. Self-medication for minor diseases and accidents is a common practice in the US. A medication should provide usage guidelines, potential side effects, precautions, monitoring, potential interactions, and an indication of how long it should be taken.

Keywords:

OTC Medications, Misuse, Diagnosis, Side effects, Addiction, SM

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According to the World Health Organization, responsible self-medication requires this. Notably, herbal medications can be purchased as over-the-counter, used for self-medication, or marketed as functional foods, dietary supplements, or both in the majority of countries ⁽⁴⁾. In preventive medicine, self-care can play a significant role in heart disease prevention and smoking cessation ⁽⁵⁾. Self-care has several potential advantages, such as improved access to quality care, fewer doctor visits (which relieves pressure on healthcare services), higher population productivity, greater patient autonomy, and lower expenses for third-party payers like the government or insurance companies. The potential drawbacks of self-care have been discussed elsewhere.

These include delay seeking medical attention or receiving the wrong diagnosis, using medication without supervision, which raises the risk of misuse, abuse, overdose, adverse events, and interactions with other medications or consumables, all of which could raise the cost of self-care ^{(6) (7) (8)}.

A significant portion of the population avoids visiting their doctor when they become ill. They may usually visit a pharmacist and buy a medication from his shelves, or they can ask a neighbor if he has any pills left over from a past illness and kindly give them up ⁽⁹⁾. Medications for self-administration are commonly referred to as “nonprescription” or “over the counter” (OTC) and can be obtained through pharmacies without a prescription from a physician. Supermarkets and other retail locations sell over-the-counter (OTC) products in certain countries. Prescription products (Rx products) are medications that need a prescription from a doctor. Patients seek for self-care supplies everywhere, every day, in an attempt to treat prevalent health issues. They may act in this way because it’s more convenient for them, it might save more time, they might not see the value in scheduling a visit with a healthcare provider, they might not understand the extent of the problem, or they might be without other choices ⁽¹⁰⁾.

People in low-income nations have an obsession with using medicine, and nearly everyone takes drugs without a valid prescription. Individual differences in drug sensitivity mean that what is a suitable dosage for one person may be an overdose for another. Even highly qualified doctors can occasionally fail to prevent such responses.

Therefore, those who self-medicate run the risk of making poor decisions and exposing themselves to possibly harmful consequences ^{(11) (12)}.

As patients may receive prescriptions with little to no monitoring from a healthcare provider, responsible self-care is an important type of healthcare access. Patients can either manage their own health or, if they have problems, bring those questions to a doctor or pharmacist for help and direction. Patients can also learn about the therapies that are accessible to them without a prescription. This review highlights the need for consensus in order to formulate relevant recommendations, possible risk of (SM), and delineate several facets of (SM) for addressing this pervasive health practice.

Article search and analysis:

All articles related to the topic of self-medication were included in searches conducted on PUBMED, DOAJ, EBSCO, and Google Scholar.

This included evaluations of the practice of self-medication, its effects on health, and the tendency and use of over-the-counter medications both alone and in conjunction with prescription medications.

The literature search was done on articles published after 1990. After a comprehensive evaluation of thirty-two published papers, online reports, and presentations, fifteen of the publications were chosen to be included in the literature analysis. This Review cites review articles, research, and book chapters to give readers more information and references.

History of SM:

Since the beginning of time, human has been using medicines for a variety of objectives. The World Health Organization (WHO) believes that the most often utilized treatments globally are herbal and other plant-derived cures. Remedies made from plants may include compounds with strong toxicological and pharmacologic effects ⁽¹³⁾. Cocaine, which was chewed for pleasure and to relieve weariness, originated in the ancient South American culture and was derived from the leaves of the *Erythroxylon coca* plant. Native Americans in Central and North America utilize extracts from cactus and mushroom species for sacred purposes; these extracts may also be utilized as hallucinogenic agents. Eserine, a component of miotic eyedrops, is derived from Calabar beans, which are utilized in fetish rites in Africa.

Bronchodilatory properties of ephedra emerges from ephedra plants species in ancients China whereas digitalis, a powerful heart stimulant was developed from purple foxglove, an element of herbal folk medicine in England ⁽¹⁴⁾.

There have also been non-plant sources of self-medication. Some foods are used to counteract “hot” or “cold” illness and to restore the body’s equilibrium in Latin America; some foods are used to reduce the excess volume of “blood” that is thought to be the cause of illnesses in the southern United States of America; most Xhosa-speaking women in South Africa use indigenous healing practices for themselves and their unborn children in order to “strengthen” the womb against sorcery, prevent childhood illness, and treat symptoms they believe biomedical services would not be able to treat ⁽¹⁵⁾⁽¹⁶⁾.

Reason for Self-Medication:

Self-medication with drugs for mental health illnesses is well acknowledged as having minimal effect in terms of treating the ailment and may potentially aggravate the symptoms. On the other hand, a person who self-medicates may not be addressed by the typical explanation. There are several reasons why someone may decide to use drugs as a kind of self-medication to treat the symptoms of mental illness. The reasoning behind someone’s choice to self-medicate may seem confusing to others. But it’s important to consider their opinions.

A compassionate approach is essential when guiding a person who uses self-medication as a coping mechanism for their mental illness into appropriate mental health treatment ⁽¹⁷⁾⁽¹⁸⁾⁽¹⁹⁾.

Drug misuse is a result of self-medication, particularly among students ⁽²⁰⁾. Substance dependency may be established when a person consumes alcohol or other substances continuously despite experiencing issues associated with their usage. Repetitive and compulsive drug use can lead to tolerance to the drug’s effects as well as withdrawal symptoms when it is cut back or halted. These are regarded as drug use disorders, coupled with medication abuse ⁽²¹⁾.

In addition to the fact that nobody wants to work in rural regions, another factor is the lack of economic strength and widespread illiteracy in these areas. People prefer to consult the Quake, their neighbors,

friends or take medicine by themselves.

This way they can get medicine by spending only small amount of money ⁽²²⁾. (Table 1) summarizes reasons, problems and drug class utilized in self-medication aspects.

Self managed health:

Self-medication (SM) is an essential and crucial part of regular medical treatment. For curative, preventative, promotive, and rehabilitative treatment, it promotes independence ⁽²³⁾. Rather than serving as a supplement or an incentive to use health services, it seems to be a substitute for them ⁽²⁴⁾.

Due to the fact that it may be used to cure minor illnesses on one’s own and has both health and financial advantages, the Federal Republic of Germany and Switzerland have acknowledged its significance in the healthcare system ⁽²⁵⁾.

Given that people have a legal right to reasonable self-management, patient information, education, and counseling—of which the pharmacist is a key player—was a crucial component of a qualitative enhancement of the profession ⁽²⁶⁾.

In some situations, the approach is applied regularly and effectively. An Australian-based study revealed that in just 2% of cases self treatment for mild diseases were the measures taken assessed as improper and potentially hazardous ⁽²⁷⁾.

If a patient has recurrences of a chronic infectious condition, self-medication was advised in certain cases. Furthermore, information on OTC medicine sales may be used to track the practice of self-medication because they reflect patterns in this area.

Self-medication and addiction:

The signs and symptoms of anxiety or depression are frequently exacerbated when people self-medicate excessively and for extended periods of time with alcohol or benzodiazepines. Long-term usage is thought to cause alterations in brain chemistry, which is why this happens ⁽²⁸⁾⁽²⁹⁾.

Alcohol or benzodiazepine dependency can sometimes be preceded by anxiety, but when they coexist, anxiety issues are maintained and frequently get worse over time. But when informed that they had to choose between continuing to have poor

TAB. 1
REASONS, PROBLEMS AND DRUG CLASS (SERIAL NO 1, 2 & 3)
RESPECTIVELY, UTILIZED IN SELF-MEDICATION ASPECTS

Serial no.	Model	Variables
1	Simple reason for self-medication	<ul style="list-style-type: none"> • Problem not serious • Previous experience • Lack of time • Advice from friends • Unavailability of transport • Cost of consultation • Urgency of problems • Availability of drugs • Leftover drugs • Stress • Similar prescription
2	Common health problems resolved by self-medication	<ul style="list-style-type: none"> • Ulcer • Fever • Headache • Cough and Cold • Pain disorder • Allergic Conditions • Sleep disorders • Diarrhea • Constipation
3	Self-medicated drug class	<ul style="list-style-type: none"> • Pain killer • Antipyretic • Antibiotics • Anti-allergic • Sleeping pills • Vitamins • Antidiarrheal • Indigestion drugs • Antiemetic

mental health or stopping and getting well from their symptoms, some persons who are addicted to alcohol or benzodiazepines choose to stop using either substance, or both.

Every person has a different threshold for alcohol or sedative hypnotic medicines, and what one person may take without experiencing negative health effects may produce extreme negative health effects in another. Moderate drinking alone has been shown to trigger rebound anxiety syndrome and sleep difficulties. Other therapies or drugs won't help someone who is suffering the toxic consequences of alcohol since they don't address the underlying sources of the symptoms ⁽³⁰⁾.

Self-medication is a typical prelude to full-blown addictions, and long-term neural alterations associated with the chronic use of any addictive

drug have been shown to significantly enhance the likelihood of developing an addiction to other drugs ⁽³¹⁾.

Although it's not a recommendation use of antibiotics without prescription, self-medication is a prevalent in practice. Self-medication may be dangerous for the patient and the community at large, even though it is often recommended as a vital substitute for a formal healthcare system in situations when one may be absent.

Every location has its own reasons for which people self-medicate, and these reasons might have to do with the health system, society, economy, gender, and age. Risks include allergic reactions, fatalities, and no known treatment.

Individual risk of self-medication:

In more extreme situations, certain drugs have a chemical reaction that might be harmful if used after they expire. Age-related changes in a medication's chemical makeup can make it more dangerous, increase the chance of side effects, or cause it to interact badly with other drugs. Everyone should always check with their doctor before taking any drug, and make sure the dosage is within a safe range. A number of individual hazards (Table 2) may occur during independent of use of drugs.

TAB. 2 INDIVIDUAL RISK	
Serial no.	Factors
1	Not understanding the unique pharmacological hazards
2	Ignorance of or unwillingness to disclose negative drug responses
3	Failure to recognize or self diagnosis contraindications,
4	interactions, warnings and precautions
5	Incorrect route of administration
6	Danger of misuse and dependency
7	Wrong choice of therapy
8	Overly extended usage

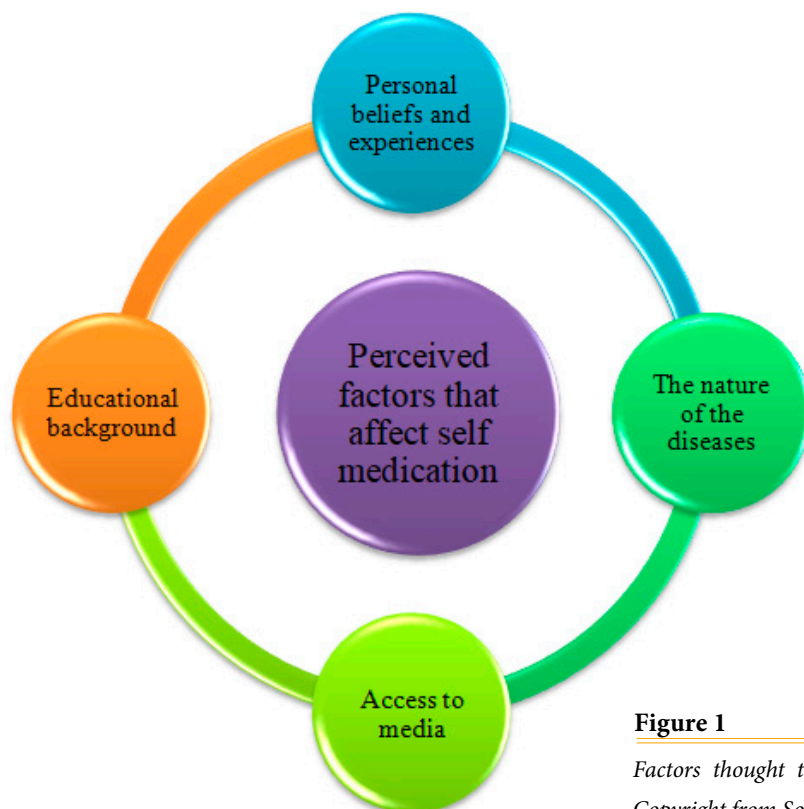


Figure 1

Factors thought to influence students' self-medication.
Copyright from Soroush et al. 2018⁽³²⁾.

Danger of self-medication:

- People frequently look up symptoms online, read up on various illnesses or complete personality tests in an attempt to validate their deepest fears these days. Yet such tests and publications are far from trustworthy and do not represent an official diagnosis. If someone purchases over-the-counter medication for the wrong ailment after making a mistaken self-diagnosis, their symptoms might get worse.
- A rehab institution conducts an extensive series of medical examinations and psychological assessments prior to starting treatment. Medical professionals never give FDA-approved drugs to patients without carefully reviewing their medical history. If not, it might result in negative side effects and unintended medication interactions, which could potentially endanger life ⁽³³⁾.
- Some people routinely abuse their prescription medications by taking them more frequently than is required or by changing the dosage. A medication could improve someone's mood, making them want more and more of it. When they can't handle the symptoms of withdrawal, they could even turn to recreational drugs and get addicted.
- While there may be short-term advantages to SM, there may be long-term detrimental effects on one's physical and emotional well-being. Long-term usage exacerbates the early symptoms and increases the risk of co-occurring illnesses in the person ⁽³⁴⁾ ⁽³⁵⁾.
- Self-medicating on a frequent basis puts the user at risk for drug addiction and dependency. To experience the same benefits, the body could get accustomed to the substance and start to seek more of it. Once the body is biologically reliant on the substance, it may have trouble functioning normally without it, ending in addiction. In the end, self-medication might cause delays in getting the help you need ⁽³⁶⁾.
- People who self-medicate rather than consulting a nearby healthcare professional can be hiding more serious problems. They can be in denial and unwilling to acknowledge that they want expert assistance and direction. They may even experience severe stress, suppress particular feelings and memories, have unresolved childhood trauma, or struggle in their

relationships or at work. An effective treatment program can assist in identifying and addressing an illness's underlying causes.

- One major risk is that they could overlook anything related to their concerns or difficulties, which might lead to a misdiagnosis of their own condition, perhaps with severe repercussions. For instance, a person may believe they have anxiety, but a more thorough medical check may reveal a significant underlying medical issue, such as cardiac arrhythmia. The person who suffers may treat themselves as though they have a simple anxiety issue (using relaxation techniques, for example) and fail to recognize that they are suffering from a serious medical illness that needs to be treated ⁽³⁷⁾.

Recommendation and prevention:

Among those who might be able to reduce the hazards associated with self-medication are health professionals. They are devoted in everyday practice, focuses on the three primary therapeutic facets of professionalism: education, counseling, and information ⁽³⁸⁾. When a medical expert prescribes a medication, he or she should explain why the patient has to take it and provide clear instructions so that the patient may make an informed decision. Information should be provided to patients at their level of comprehension so they may better understand how to handle it ⁽³⁹⁾.

In both acute and chronic treatments, therapeutic noncompliance is a major issue that often stems from an inadequate or misinterpreted explanation of the goals of the therapy. Patients are unlikely to utilize medicine appropriately if they lack knowledge. However, patients will have a set of guidelines that will help them use the medication appropriately both now and in the future if the instructions for usage and restrictions of a particular medicine are presented.

Examples of these guidelines include dose, frequency of administration, treatment course, and how to take it. Self-medication that is inappropriate and inconsistent, as well as noncompliance, may only be decreased if patients are fully educated and comprehend the rationale behind specific recommendations. The improper medical model from which individuals have been taught leads to inappropriate self-medication.

It is important to provide patients with appropriate health education. Regularly embracing an educated mindset allows us to impact significant portions of the populace, individuals who may then directly impact their friends and family. This is especially significant when it comes to parents' self-medication or caregivers' self-medication of their children ⁽³⁸⁾.

For the goal of maximizing patient success and standard of life, pharmacists are essential in recognizing, resolving, and avoiding drug-related issues. Pharmacists who work in ambulatory care settings have the duty and opportunity to promote the safe, appropriate, cost-effective, and efficient use of all pharmaceuticals, particularly those that patients choose on their own.

Before taking any drug on their own, pharmacists should advise their clients to see a doctor ^{(40) (41) (42)}.

The pharmacist must inquire into the patient's questions and provide pertinent information (such as how to take medications and handle safety concerns) in order to properly manage the patient's condition ⁽⁴³⁾. The pharmacist is responsible for making sure the goods they buy are of high quality and come from reliable suppliers ⁽⁴⁴⁾. Building strong collaborative ties with other healthcare professionals, national professional groups, the pharmaceutical industry, local and federal governments, patients, and the general public is crucial for pharmacists ⁽⁴⁴⁾.

As a member of the healthcare team, the pharmacist needs to take part in health assessment to identify community members who may be at risk for health problems, to promote health issues and disease prevention through campaigns, and to give advice to individuals so they can make educated health decisions.

It has been said that a high degree of education and professional standing are prognostic variables for self-medication. The most common causes of self-medication include minor illnesses, prior experience managing illnesses of a similar kind, financial constraints, and a shortage of medical staff ⁽⁴⁵⁾.

Governments and healthcare provider must make sure that self-medication is done responsibly, that safe medications are made available over-the-counter, and that consumers are provided with sufficient information about how to take pharmaceuticals and when to see a doctor ⁽⁴⁶⁾.

Conclusion:

This review concentrated on the self-medication of various drug classes, background, potential risks, its features, and the purpose of using it. While self-medication could seem like a decent idea at first, it's crucial to consider the risks involved with engaging in such activity.

Taking medicine on oneself may result in more severe issues. Taking several medicines or taking pharmaceuticals with alcohol or other substances increases the risk of significant drug interactions. Health education emphasizing the risks of self-medication with antibiotics should be provided to professionals and recent graduates.

One major issue that has to be addressed right away is antibiotic resistance.

Therefore, it's important to effectively inform and educate the public so that they are aware of the risks associated with self-medication.

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