International Journal of Pharmaceutical and Life Sciences
ISSN 2305-0330
Volume 3, Issue 8: September 2022

Misuse of over-the-counter Medicines: Pharmacist's Role

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Abstract

Practices of self-care and self-medication are crucial parts of any health care system. The process of self-medication includes the usage of over-the-counter (OTC) drugs. The prevalence of OTC medication use among patients could lead to a rise in OTC drug misuse. Due to their accessibility, pharmacists frequently serve as the initial point of contact for patients, giving them the chance to inform and advise them about the proper use of OTC medications. The usage of OTC drugs is guaranteed to be secure and efficient when a pharmacist is present. In order to manage patients' self-care practices, pharmacists can communicate with other healthcare professionals. A pharmacist has, however, typically been underutilized in this role. An overview of OTC drugs with abuse potential is given in this article, along with information on how self-medication affects OTC drug misuse. Given the growing likelihood of switching from prescription to over-the-counter medications in recent years, this review goes on to highlight the challenges pharmacists confront in managing OTC medication abuse. Additionally, the possibility for a category of over-the-counter medications to improve interactions between patients and pharmacists was considered. The current review backs up the beneficial part played by pharmacists in controlling OTC drug addiction. The review broadens our understanding of the challenges faced by pharmacists in preventing OTC medicine addiction and creating effective intervention techniques. OTC medicine abuse may be better managed, leading to better patient medication therapy management and results, by broadening the role of pharmacists.

Keywords: over-the-counter, OTC, self-medication, behind-the-counter, BTC

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Introduction

Over-the-counter (OTC) or non-prescription drugs are those that individuals buy for the treatment of common illnesses without a doctor's prescription. Numerous conditions, such as headaches, the common cold, musculoskeletal pain, allergies, tobacco dependence, and heartburn, are prevented and treated with OTC medications.[1] However, utilizing over-the-counter medicines is never without risk.[1,2] These include incorrect self-diagnosis, dosage errors, problems with addiction after long-term use, unfavorable drug reactions, and drug interactions.[3,4] Most patients do not address the hazards of their over-the-counter (OTC) medications with a doctor, thus they are generally uninformed of these risks.[5] Direct-to-patient advertising also broadens patients' exposure to drugs. In the absence of expert assistance, product use increases as a result.[4,6] The use of over-the-counter medicines for non-medical purposes is considered OTC medication misuse.[7] Contrary to OTC medicine misuse, which can involve the use of medication for medical purposes but inadvertently, abuse is frequently intentional. Examples of wrong usage of OTC medications include incorrect dosage, ignorance of interactions, inappropriate pharmaceutical use, and incorrect duration of use.[8]

However, there is rising concern about the possible risks linked to these drugs. This article's goal is to give a quick overview of OTC medication abuse, its scope, the role of pharmacists in addressing the problem, the idea of behind-the counter (BTC) medication, and necessary efforts that pharmacists and the pharmacy profession must do moving forward to address the problem with a national impact. Few papers have examined the challenges faced by pharmacists and the measures taken to avoid misuse from a pharmacy-based approach, despite the fact that there have been articles researching OTC drugs and abuse. This review will give pharmacists and researchers a viewpoint on the potential contribution of pharmacists to the reduce OTC medicine abuse and the strategies that might be used to reduce the misuse.

OTC drugs with the highest potential for abuse

Numerous over-the-counter medicines have misuse potential. Antihistamines, sleeping pills, caffeine, ephedrine, pseudoephedrine, antitussives and expectorants, dextromethorphan, laxatives, anabolic steroids, and sildenafil are among the drugs that are frequently abused.[9–11] Excessive antihistamine doses are used to achieve euphoria and high dosage of laxative is used for weight loss.[12] Opiate-based combo medicines, cough/cold treatments containing dextromethorphan, sleep aids, antihistamines, analgesics, hypnotics, and laxatives have all been identified as having abuse potential in research on OTC pharmaceutical abuse conducted around the world. The most commonly misused pharmaceuticals are pain relievers and cough syrups. The most frequently accused OTC drugs for drug addiction are cough and cold remedies and those with codeine or other opiate ingredients. [7,13,14] In the United States, codeine is not available as OTC. In other countries, however, it is a primary medicine with the potential for abuse.[15] Numerous studies have identified OTC codeine analgesics as the most commonly abused medication.[6,16,17] Table 1 lists the OTC medications with the highest potential for abuse.

Increased access to medications is one of the most likely causes of OTC abuse. This is because medications for common illnesses are made available through a prescription-to-over-the-counter (OTC) switch.[16] The majority of switches are motivated by the firm's patent expiration. However, in the case of prescription antihistamines such as Claritin, Zyrtec, and Allegra, Blue Cross and their parent company petitioned the US Food and Drug Administration to make the switch (FDA).[17] Giving patients autonomy, basing diagnosis on the patient's judgment, and the absence of a physician may result in inaccurate self-diagnosis.[5] For example, the availability of treatment for dyspepsia conceals the presence of a severe gastrointestinal disease, which patients may not diagnose.[16] Lack of pharmacist vigilance may result in long-term inappropriate use of OTC medications, endangering patients' health.[5] Switching drugs promotes patient decision-making while increasing patient autonomy.[16] The switch of cold/allergy, analgesic, and dermatological products resulted in savings of about $12.9 billion.[18] But

when more drugs were made available over-the-counter, the range of drugs that could be abused grew as well.[19] For instance, the switch of acetaminophen from a prescription drug to an OTC drug has increased the incidence of severe liver hepatotoxicity.[20] Acetaminophen abuse can result in withdrawal symptoms, suicidal thoughts, and liver failure.

Table 1: List of over-the-counter drugs abused

Class/therapeutic group	Medication example
Antihistamines40,41	Diphenhydramine and coricidin
Cough medicines42	Cough medicines containing dextromethorphan
Codeine-containing products7	Compound analgesics (codeine with ibuprofen or paracetamol) and cough medicines
Analgesics43	Aspirin and acetaminophen
Hypnotics40	Sominex and nytol
Laxatives (oral and rectal)7,44	Sodium phosphate laxatives and laxatives containing bisacodyl
Decongestants45	Pseudoephedrine

Role of pharmacist in management of OTC drugs

Patients have simple and unrestricted access to pharmacists for advice. Many patient difficulties, including product selection, OTC brand name confusion, optimal product use, and when to take drugs, are easily resolved by pharmacists. Thus, pharmacists have a significant impact on the purchase and selection of OTC medications. Due to manufacturers' marketing techniques, product selection is often difficult for patients. Line extension is a typical marketing strategy employed by pharmaceutical manufacturers.[5] A significant portion of money is allocated to marketing and line extensions for OTC medications. Once a manufacturer has created a brand name, other products are offered under the extension of same brand name. Tylenol®, for instance, has numerous line extensions, such as Tylenol PM® and Tylenol Cold and Cough®. This frequently leads to confusion among patients. Frequently, these line extensions contain many components, causing more confusion.

A patient-pharmacist dialogue would aid patients in making decisions in these circumstances. Patients' choosing of OTC medications is frequently influenced by ads for these drugs. A patient could be misinformed if the marketing is deceptive.[21] The commercials emphasize the positive advantages of the drug while providing minimal information about contraindications and safety risks. In this regard, a pharmacist can also provide information on the safe use of OTC drugs and insight into all aspects of the drug.[19,22]

Pharmacist's role to prevent abuse of OTC drugs

Historically, the primary focus of pharmacists was on the pharmaceutical distribution. Both pharmacists and pharmacy technicians are expected to deliver a wider range of services in recent years as a result of the growing prevalence of chronic illnesses, the increased demand for preventative services, and the increasingly complex usage of pharmaceuticals. They take on roles that are more clinically patient-oriented.[14] Accredited pharmacy technicians have been shown to have a favorable impact on patients within the context of a hospital environment by collecting patients' medication histories and resolving any discrepancies between their medications.[7,15,23–25] In addition, pharmacy technicians contribute to the care transitioning process as patients move from an institutional setting to a home or community setting.[26] Expanding the responsibilities of pharmacists and pharmacy technicians is necessary because of the rapidly changing nature of the health care system.

When purchasing over-the-counter (OTC) drugs, the first point of contact is typically a pharmacist. They are required to monitor the usage of over-the-counter medications among a particular group.[7] For instance, in the case of older patients who take a variety of medications, pharmacists ought to maintain a higher level of vigilance. In addition, patients who come in with requests for frequent refills need to be followed closely, including with regard to the usage of any over-the-counter medications.[27] Utilizing their clinical expertise, offering both verbal and written drug information, and establishing trust among patients are three ways in which pharmacists can be more proactive in the

management of abuse of over-the-counter medications.[23,28] When a patient receives a refill of a prescription, certain programs are maintained, such as prescription drug monitoring, record information about the patient. In contrast, if a similar program were established for over-the-counter (OTC) pharmaceuticals, patients would be required to stick with their current pharmacy. Consequently, it is possible that the implementation of such a program would not be practicable. It has been suggested in the past that pharmacists adopt a variety of strategies to cut down on the abuse of over-the-counter medications.[28] Keeping the implicated items out of sight, questioning the purchase of these products by pharmacists, and refusing to sell the implicated product were the top three techniques that pharmacists employed to control abuse of over-the-counter medications.[3,29] It was found that 62% of pharmacists acknowledged taking certain actions to reduce OTC pharmaceutical abuse. These tactics included things like not exhibiting medicines, refusing sales, and associated regulations including the pharmacist conducting an interview with the patient. During the interview, the patient may be asked additional questions at the time of purchase, and the pharmacists may offer the patient guidance as appropriate to prevent the patient from abusing prospective items.[24] Referral to a physician, referral to a drug and alcohol misuse team, and/or involvement of pharmacists in harm reduction programs are some of the additional strategies that were employed and reported by pharmacists to reduce the abuse of over-the-counter medications.[17] The possible approaches of preventing abuse of over-the-counter medicines are outlined in Table 2, which can be used in a variety of settings and circumstances.

Difficulties for pharmacists to prevent abuse of OTC drugs

Monitoring OTC abuse is difficult for pharmacists and pharmacies. Identifying drug-related problems may be difficult due to inconsistent OTC data. Pharmacists rarely record or track OTC medicine use, creating a vacuum in counseling information.[30] A person who wants to abuse an OTC drug could get it from the same pharmacy or several pharmacies. In 2005, the US passed the Combat Methamphetamine Epidemic Act in response to pseudoephedrine usage (CMEA). This law limits how much pseudoephedrine can be

bought in US pharmacies.[31] This measure aimed to reduce illegal consumption of methamphetamine, which can be mass-produced using OTC cough and cold medications. The CMEA limits pseudoephedrine purchases to 9 g per month.[31] This act has helped minimize OTC pseudoephedrine abuse, but pharmacists haven't proactively adapted it for other drugs in the US.

Lack of pharmacists' proactive efforts to supervise OTC drug use leads to abuse. Overworked pharmacists have less opportunity to be pharmaco-vigilant due to their high-stress prescription processing job. The regulatory restrictions for pharmaceutical distribution and pharmacy practice haven't kept up with abuse potential or patient or pharmacist demands.[30]

A pharmaceutical study found that pharmacists were overworked.[32] A pharmacy's shortage of staff limited attention and problem identification among the patient's OTC decisions.[32] The role of pharmacy technicians aren't used enough to improve pharmacy practice. Due to a lack of pharmacists, pharmacy technicians help reduce OTC medicine abuse. Pharmacy technicians protect patients. They help with prescription dispensing, patient information, and order entry. Their attentiveness may reduce OTC drug abuse.[32]

There are measures to combat prescription drug abuse, but OTC abuse is disregarded. In recent years, pharmacy take-back initiatives, drug monitoring programs, and professional pharmacy programs like the American Pharmacists Association (APHA) have been notable, while OTC medication abuse has received minimal attention.

Table 2: Common strategies used by pharmacists to manage OTC drugs abuse

Target locations	**Pharmacist-initiated strategies**
In a pharmacy	Refusing sales Contacting other pharmacies to warn them of the suspicions of a customer who may be abusing a product Claiming products were not in stock Prevent supplies by hiding medicines Supplying only limited amounts
Patient involvement	Counseling customers about the abuse potential of products

Target locations	Pharmacist-initiated strategies
	Raising awareness of Internet-based support groups among patients by advising them Providing information leaflets
Physician involvement and other services	Working on general practitioner engagement/consultation Providing referral to doctors Using private clinic services Using specialist drug services and drug and alcohol treatment services

BTC drugs: a promising alternative

BTC medicines are "a third type of drugs available without a prescription; they're available only after consulting a pharmacist."[33] In the UK, Ireland, Canada, New Zealand, France, and Australia, BTC medicines are extensively used.[34–36] The Government Accountability Office (GAO) reviewed the need for a BTC category in 1995, but the FDA rejected it. The FDA re-proposed the proposal in 2007 and GAO reevaluated it in 2009 without a conclusion. Since 2007, the FDA has solicited information about a prospective BTC category in the US. BTC drugs are dispensed under expert supervision, unlike OTC prescriptions. This assures medication safety, appropriateness, and effectiveness and increases control over high-risk pharmaceuticals.[37] Pharmacists and technicians must be qualified to undertake initial evaluations and screenings, medication reviews, patient counseling, and medication monitoring. High blood hypertension, high cholesterol, asthma, GI reflux, allergies, and pain drugs could become BTC.[37] Aspirin/hydrocodone and nabilone (antiemetic) are categorized as schedule II pharmaceuticals in Canada, the BTC equivalent, and pharmacists recommended to include children's cough and cold treatments in BTC for safety.[38] USA requires a similar class. This class should contain high-abuse OTC drugs. Table 3 lists BTC-convertible medicines. Despite the attractive promises of BTC medicine, such as reducing prescription misuse, its implementation is controversial. Consumers Union and the National Consumers League argued for evidence to form a third category for BTC drugs, while the Consumers Healthcare Products Association (CHPA) opposed it. Physician organizations questioned the adequacy of pharmacists to deliver therapeutic services, citing BTC's impact on physician–patient relationships. Most pharmacist associations supported BTC medicine,

though.[39] To implement BTC medications, the following recommendations were made: benefits outweighing dangers, favorable outcomes, financial savings to society, sufficient resources, and acceptable remuneration structures.[37] BTC medicine class helps pharmacists prevent OTC medication misuse. FDA should examine BTC drugs to reduce OTC drug abuse.

Table 3: Drugs with high potential for transition to behind-the-counter category

Indication of medication	**Example**
High cholesterol	Statins[47,48]
Blood sugar level maintaining	Insulin[49]
Cold remedies	Pseudoephedrine and ephedrine[48–50]
Schedule V cough syrups	Certain codeine-containing products[49,50]
Emergency contraceptives	Plan B[48,49]
Painkillers	Painkillers with small amounts of codeine (up to 12.8 mg per tablet) and aspirin[51,52]
Sleep aid/allergy	Diphenhydramine[52]

Role of pharmacists in management of BTC drugs

To successfully purchase a behind-the-counter (BTC) drug, it is absolutely necessary to be in the company of a pharmacist. It is imperative that only a pharmacist's advice be followed when dispensing these drugs. When all of the requisite testing, initial screenings, and counseling sessions have been completed, a BTC drug can then be provided to the patient. Patients who suffer from conditions such as high blood pressure, gastric reflux, asthma, severe allergies, and discomfort may be considered among the prospective candidates.[5,37] All currently available over-the-counter (OTC) drugs that have a high potential for abuse are eligible to be classified as BTC pharmaceuticals. Patients will be better able to make educated decisions, which will result in the safer use of pharmaceuticals, and pharmacists will benefit from working jointly with their patients. After a pharmacist has decided that a certain medication is not appropriate for a patient, they should refuse to dispense that medication. BTC medicine is a bridge between over-the-counter (OTC) drugs and prescription medications. It has the potential to enhance access to health care while also making efficient use of a pharmacist's knowledge and skills.

Conclusion

This review comes to the conclusion that pharmacists need to have a thorough understanding of the over-the-counter drugs that have the potential to be abused. If pharmacists had better communication strategies with their patients, they might have a better understanding of the difficulties surrounding the abuse of over-the-counter medications. Abuse of over-the-counter medicines is a problem in many nations. It is anticipated that the introduction of a new class of BTC drugs will assist in enhancing patient monitoring while simultaneously preventing potential abuse of OTC prescriptions. Patients can certainly benefit from the advice that their pharmacists provide. The alertness of pharmacists can contribute to the reduction of misuse of over-the-counter medications. The present model of health care asks for increased oversight and control over over-the-counter (OTC) drugs, particularly those with a known propensity for abuse. It is imperative that we find a middle ground between limiting the potential for abuse of over-the-counter medicines and ensuring that people have access to the pharmaceuticals they need. Finally, the data collection and reporting procedures for the abuse of over-the-counter medications can be standardized, and separate reporting procedures can be established for the misuse, abuse, and addiction to medications.

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