

The Role of Pharmacists in Ensuring the Safe and Effective Use of Over-The-Counter (OTC) Products in Retail Pharmacies

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Abstract

Pharmacists play a crucial role in managing over-the-counter (OTC) products within retail pharmacy settings, ensuring safe and effective use among consumers. With the rise in self-medication trends, the responsibility of pharmacists extends beyond merely dispensing products to providing informed guidance, assessing potential drug interactions, and educating patients on proper usage. This article explores pharmacists' roles in OTC product management, including counseling, screening for contraindications, and ensuring patients understand dosage and side effects. Challenges such as limited access to patients' medical histories and the ethical considerations surrounding OTC product recommendations are also discussed. Furthermore, this study highlights the impact of regulatory guidelines on pharmacists' practices and emphasizes the importance of patient-centered communication. Through these efforts, pharmacists contribute to public health by promoting safe OTC product use, preventing adverse reactions, and fostering an environment of responsible self-care. The evolving landscape of OTC product management offers opportunities for improved patient outcomes through technological advancements and enhanced training.

Keywords: Over-the-counter products, Pharmacist role, Patient counseling, Drug interactions, Self-medication, Retail pharmacy, Patient Safety, Health education, Public health, Responsible self-care

1. Introduction

Drug products available without prescription are incorporated into the OTC products, which play an essential role in the healthcare industry. These products include fixture administration with products for minor ailments like painkillers, allergies, colds and flu, digestive systems, and skin complaint products. OTC products enable people to do it on their own, and at any time, they can decide they need products for their health needs. However, when it comes to consumer benefits, this same freedom has its drawbacks – people can misuse these products or improperly comprehend them, leading to side effects or futile treatment. With increasing access to over-the-counter products comes the importance of having the right advice when using these products.

It will also be found that pharmacists have significant roles to play in the administration of OTC products in the retail pharmacy environment and a link between the consumer and proper healthcare. Over-the-counter products are invaluable to clients, and as accessible healthcare professionals, pharmacists play an

important role by offering the necessary information to clients. Using individual targeting, pharmacists first evaluate the customer's needs and orient him to the required multi-sectional products; secondly, define whether it is safe to use OTC drugs and prescription medicines for this particular client. The use of OTC products is more common among those with prevailing ailments or on a regimen of many other prescription drugs, consequently making the opinion of pharmacists vital. In retail pharmacy practices, pharmacists are the first line of treatment for patients seeking health advice. These effects enable the pharmacist to see what possible dangers to the patient in using the OTC products, such as other drug interactions, allergies, or contraindications to the recommended product for each client. In addition, pharmacists are involved in the management and prevention of OTC drugs since they explain to customers how to use them, the dosage to take, and possible side effects. Pharmacists also play a clinical role in counseling patients on measures to prevent adverse effects and overall patient safety, resulting in health promotion and optimality [1].

2. Pharmacists' Role in OTC Product Management

This article will focus on OTC products, the national role of pharmacists in the safety and efficiency of retail pharmacy provision, and the opportunities for enhancing the pharmacists' therapeutic role in communicating with patients concerning non-prescription drugs & products. Going beyond the product delivery scope, they ensure customers get individualized instructions to get the most out of over-the-counter drugs yet avoid possible harm. This dual function in guidance and filtering is decisive when assisting consumer health decisions [2].

2.1 Guidance and Counseling on OTC Products

OTC product management is one of the central roles of community pharmacists, and one of the critical tasks is to educate and advise patients. Some people in need of over-the-counter drugs will need more information concerning the content of the drugs, the right proportions to take, as well as side effects. In these situations, pharmacists fill the knowledge gap with necessary counseling, which would inform the patient about the various OTC products available in the market and their uses, benefits, and associated risks. Pharmacists advise each customer based on the health condition, medical history, and signs or symptoms presented before being sold an OTC product. This individual approach also allows pharmacists to consult with patients appropriately and at the correct dosage. For example, if the patient is in search of remedies for cold and flu, their pharmacist could recommend a medicine that treats specific symptoms, i.e., a nasal decongestant for a stuffy nose or an expectorant for a persistent cough, and exclude any compounds that are dangerous to take together with other medicines.

Furthermore, pharmacists counsel patients on how to properly use Over-the-counter products. They educate patients concerning possible consequences, how to identify complications, and what should be done if a problem occurs. This guidance is essential for patients with chronic diseases or those using prescription drugs because such patients could be more susceptible to bad reactions. Thus, by making sure that patients have a proper amount of data, a pharmacist helps to minimize the risks of dangerous self-treatment with OTC drugs [3].

2.2 Screening and Recommending Appropriate OTC Options

Besides counseling, pharmacists screen and refer appropriate OTC products every occasion, depending on their health state. During the first pharmacy interview, patients are asked a few questions to gather information about their symptoms, past or present illnesses, or possible allergies. This process enables one to determine other factors that may contradict the use of OTC products, including pregnancy, high blood

pressure, diabetes, or asthma. Screening also entails studying likely unwanted effects and interactions of the drug with other drugs. As two OTC agents and prescription medicines may interconnect to render medication inefficiency or toxic side effects, as listed in Table 1, patients consult professional pharmacists. For instance, some drugs for common chronic diseases like colds may cause high blood pressure, making it unsuitable for hypertension patients, or antacids can hinder the absorption of other medications; they are appropriate when used with other medicines. This unglamorous procedure is critical to avoiding complications and guaranteeing patients the right advice.

S.no	OTC Product Category	Primary Use	Potential Drug Interactions	Key Precautions
1.	Pain Relievers	Pain Management	NSAIDs with blood pressure medications	Avoid excessive use to prevent GI issues
2.	Cold Medications	Cold and flu symptoms	Decongestants with blood pressure medications	Not recommended for patients with hypertension
3.	Antacids	Digestive discomfort	It may reduce the absorption of certain antibiotics.	Follow dosage instructions
4.	Allergy Medications	Allergy relief	Sedatives may interact with alcohol	It can cause drowsiness; avoid alcohol
5.	Laxatives	Constipation relief	Certain laxatives may interact with diuretics	Limit prolonged use to avoid dependency

Table 1: Common Over-the-Counter (OTC) Products and Their Recommended Usage Guidelines

Afterward, depending on the results of this assessment, pharmacists can recommend OTC medicines that are safe and effective for the patient. By making informed recommendations, they avoid cases whereby patients use the wrong products, which might pose severe problems. Also, pharmacists offer information regarding other suitable lifestyle changes or preventive measures alongside the OTC products, such as appropriate water intake or a diet plan that could be more efficacious [4].

3. Ensuring Safety in OTC Product Usage

Consumers depend on pharmacists to assist in the wise purchasing of readily available over-the-counter products while maximizing the benefits of the same minimal risks. To support this, pharmacists screen for interaction, rule out compatibility issues, teach about proper use, and provide follow-up care during an adverse reaction. This is crucial, as it helps assure patient's health and well-being in the retail pharmacy environment.

3.1 Identifying Potential Drug Interactions and Contraindications

Interferences and incompatibilities are considerable risks associated with OTC products. Since many products available over the counter contain active pharmaceutical ingredients that may interact with other substances, including prescription medications, the role of pharmacists in managing these risks is central. For instance, NSAIDs used to alleviate pain may be incompatible with blood pressure drugs since the latter may be less effective and cause severe cardiovascular problems. Likewise, patients with anticoagulant medications feel a high risk of bleeding when using some OTC pain relievers; the involvement of pharmacists is essential. The pharmacists analyze the patient's medication and health

profile to determine any limitations that might exclude using several OTC products. This potentially allows the pharmacists to check for such signals as the presence of chronic diseases, allergies, or pregnancy, which could affect the safety or efficacy of the chosen product when performing a brief but profound screening process. It especially should be practiced when it comes to elderly patients who are likely to have coexisting illnesses and who may be on several forms of medication at the same time, a factor that makes them vulnerable to the effects of combinations and contradictions [5].

3.2 Recognizing Adverse Reactions and Managing Risks

Pharmacists are also responsible for ensuring that patients are informed of the side effects of OTC products and how to counter them. Side effects can include mild to severe effects, which are rare at that too; effects include dizziness and nausea and other effects that are severe enough to necessitate the attention of a healthcare practitioner. For instance, some antihistamine drugs used to counter allergy can lead to drowsiness; this is quite unsafe for anyone operating large machines or driving. Like decongestants that contain pseudoephedrine, there can be an elevation in a heartbeat, and this can be dangerous to those with heart-related ailments. During patient counseling, pharmacists make it a point to remind the patients of possible signs of adverse reactions. Patients and caregivers are educated on symptoms of an allergic response, including rash, swelling, or difficulty breathing, and what action to take if such symptoms occur. Suppose side effects are more prone to happen in particular. In that case, pharmacists may suggest other treatments or offer ideas on alleviating any side effects, such as taking the drug with meals to avoid nausea. In this way, pharmacists educating patients on this knowledge promotes a safer self-care process and enables patients to address minor health concerns without endangering themselves [6].

3.3 Educating Patients on Proper Dosage and Use

An essentially potent factor for leveraging the safety of OTC is to brief the patient on how to use the medication appropriately, including the right dosage. Most over-the-counter products still provide dosage guidelines, but depending on the user's unique circumstances or certain health complications, the user's requirements may vary, and this is where the pharmacists make a difference. For instance, a dose suitable for an adult may require the doctor to scale down for older adults or patients with damaged or frail kidneys or livers. Furthermore, over-the-counter drugs for coughs and colds commonly contain multiple active compounds, and patients can also take an overdose of substances they are not aware of. Pharmacists assist patients with the correct formulation they should take and the interval between the doses so that the patient does not overdose beyond the maximum quantity allowed in a single day. This is more so where the product is, such as acetaminophen, which is contained in many combination products; consuming more than the recommended quantities can harm the liver severely. Pharmacists also describe for what duration patients should continue using the OTC product and when the patient should see a doctor if the symptoms exist. This is important because people should not keep using OTC products for years; this may put a veil on other health complications that need the doctor's intervention.

4. Challenges Faced by Pharmacists in OTC Management

Managing over-the-counter (OTC) products in retail pharmacy practice presents several challenges that underscore the importance of pharmacists in guiding safe and effective self-medication. Although OTC products offer accessible and affordable remedies for various minor health issues, their easy availability also introduces the risk of misuse or overuse, particularly among individuals who may not consult healthcare providers. This ease of access, coupled with a lack of professional oversight, often leads to inappropriate self-medication, which can result in adverse health outcomes. Therefore, The pharmacist's

role is critical in educating and advising patients on the proper use of OTC products while also addressing the challenges arising from unrestricted access to these medications. One major challenge is the sheer volume and diversity of OTC products available. In many retail pharmacies, thousands of OTC medications cover various ailments, from pain and allergy relief to digestive and cold treatments. While beneficial for patient choice, this variety complicates the pharmacist's task of keeping up with each product's indications, contraindications, side effects, and interactions. Additionally, new OTC products frequently enter the market, making it essential for pharmacists to update their knowledge to provide accurate recommendations continually. This constant learning curve can be overwhelming, particularly for retail pharmacists who may not have the time or resources to stay fully updated on every OTC product's specifications [7].

Another critical issue in OTC management is the risk of medication misuse, often stemming from consumers' self-diagnosis and self-treatment. Many choose OTC products based on advertisements, personal recommendations, or assumptions about their health condition rather than consulting a healthcare provider. This behavior leads to potential misuse and complicates the pharmacist's role in evaluating whether an OTC product is appropriate for a patient. For instance, a customer may repeatedly purchase pain relievers for chronic headaches without realizing that they could be masking a more serious underlying condition. Here, pharmacists face the challenge of balancing customer service with responsible healthcare guidance, as it can be difficult to intervene without the patient's complete medical history. A lack of comprehensive medical records further complicates OTC management in retail pharmacies. When pharmacists do not have access to a patient's complete medical history, it becomes challenging to make informed decisions about the safety of certain OTC products, significantly if they could interact with other medications or exacerbate chronic conditions. In these cases, the pharmacist must rely on patient-reported information, which can be incomplete or inaccurate. This limitation can compromise the effectiveness of patient care, leading to an increased risk of adverse effects, drug interactions, or ineffective treatment outcomes. For example, patients with cardiovascular disease may inadvertently choose OTC products containing decongestants, which can raise blood pressure and pose health risks. Furthermore, pharmacists need more time and resources in retail to address self-medication practices. Many pharmacies prioritize fast and efficient service to accommodate high customer volumes, often leaving little room for comprehensive patient counseling. With adequate time to thoroughly educate patients on safe OTC use, pharmacists may be able to address the nuances of proper self-medication. Additionally, not all patients seek or accept pharmacists' recommendations, as some may view pharmacists primarily as dispensers rather than as knowledgeable healthcare providers. This perception can hinder pharmacists' efforts to proactively guide OTC use and ensure patient safety. Addressing these challenges requires a multifaceted approach that includes improving pharmacists' access to patient health information, promoting public awareness about the risks of self-medication, and enhancing pharmacist training on OTC product management. Encouraging patients to view pharmacists as essential healthcare resources, not just product dispensers, could lead to better communication and safer OTC use. Additionally, integrating technology to alert pharmacists of potential drug interactions or contraindications based on purchase history could help bridge the gap in patient records, supporting pharmacists in delivering optimal patient care in the OTC setting. [8].

4.1 Addressing Self-Medication Trends and Misuse

Using drugs without the direction of a doctor is more frequent because a wide range of OTC products is available; patient's health knowledge increases due to electronic information sources. It is, therefore,

essential, as self-care has its drawbacks through OTC products, of which most patients have no idea of possible side effects, interactions, or even the correct dosage. OTC drugs include painkillers, cough and cold products, and stimulant laxative products that produce serious health complications when consumed inappropriately or for a long time. For instance, consumers have been advised against using NSAIDs such as ibuprofen daily for pain relief because, besides relieving pain, it may cause gastrointestinal issues.

Pharmacists are usually the first people dealing with the consequences of OTC medication misuse, but combating this problem may be difficult. This means that patients may have no idea about the dangers of OTC products, and some people think that if they buy it without a prescription, they cannot be harmed by it. In these cases, the pharmacists have a responsibility to start discussing with the patient issues that might help create awareness towards the effects of abusing these OTC drugs, explaining to the patient that OTC products are sometimes dangerous when used in the wrong ways. This poses a challenge that needs good interaction between the patient and the medical personnel, not to mention the virtue of patience coupled with empathy to not discourage patients from their daily activities due to the risk factors seen in patients [9].

4.2 Limited Access to Patients' Medical History in Retail Settings

One of the problems that can be expected in the context of retail practice is the absence of opportunities to obtain a patient's entire medical record. Again, while retail pharmacists consult a patient chart to dispense medicines and question the patient, they do not have as much information about a patient as a physician would. Such restriction prevents the pharmacist from assessing the suitability of OTC products, as the client may not disclose existing medical conditions, allergies, or other medicines that may interact with certain OTC products. The lack of accurate medical records means danger, mainly when patients have not realized they are taking OTC substances that interfere with prescribed medication or worsen pre-existing illnesses. For example, a woman with high blood pressure might not remind the pharmacist that she has high blood pressure when she asks for relief for a head cold, and the pharmacist recommends a decongestant that could elevate her blood pressure further. Also, patients taking thinners may not be aware that some analgesics affect their efficacy and put them at risk by taking medications that do not meet the recommended dosage [10].

To avoid such risks, pharmacists adopt the pharmacist's use of interviews to gather adequate information. Patient-specific questions are posed about particular symptoms that may have been exhibited alongside other specifics of medical history, such as the current medications that the client is on or any allergies that they may have, to look out for any signs of alarm from the responses. While this approach might be helpful, it might need to include all critical information, especially if the patients are unaware of how some diseases or drugs may interact with OTC products. There must also be time constraints within large and busy retail pharmacies to dedicate time to complex consultative selling to every client. Concerning this challenge, one possible solution is the implementation of EHR so that pharmacists may retrieve and get a broader perspective on a patient's status. While these systems are currently not commonly used in independent retail pharmacy environments, incorporating such systems would improve the quality of the over-the-counter advice and decrease potential drug interactions. Pharmacists also keep stressing that patients reveal health data to enable them to make safer selections [11].

5. Pharmacist-Patient Communication in Retail Settings

Pharmacist-patient communication is vital to OTC drug use outcomes in retail community pharmacies. By asserting patient satisfaction when delivering information and adopting methods that promote good patient

understanding and adherence to recommendations, pharmacists can enable patients to make the right decisions on their health needs and ensure that the over-the-counter products are taken correctly.

5.1 Importance of Patient-Centered Communication

Patient involvement is a strategy of clinical interaction with the patient's involvement as the primary focus. The process is beneficial in retail pharmacy settings in which the customers are met by pharmacists who, due to time constraints, spend relatively short periods with a customer. This way, pharmacists will get a chance to listen to all patients' concerns, and, based on the questions they can address, pharmacists will provide the patient with guidance that will be most effective in the context of their health.

'In the context of OTC products, patient-centered communication becomes relevant to learn some critical information that patients may not volunteer, such as diseases or medications they take or their dietary habits. For example, a patient going for pain medication will not volunteer information that they have ulcers in the stomach which will result in them being prescribed NSAIDS that will worsen their situation were it not for the questions that the pharmacist asks. Annually, avoidable ADRs cause 168,000 hospitalizations and 128,000 deaths. At the same time, the conventional patient-centered model puts the patient at the center of the decision-making cycle. At the same time, the professionals make the decisions, even if the patient's input is valued [12].

5.2 Methods to Enhance Patient Understanding and Compliance

In the following, there are several ways, as seen in **Fig 1**, through which pharmacists can engage the patient and make them better understand the directions given for the recommended usage. One of the ways to avoid terminology is by translating medical terms and instructions into a language that the patient would understand easily. For instance, instead of saying, "This medicine may give you stomach problems," a pharmacist might use polite words and say, "It is not good to take this with an empty stomach; you had better eat before or while taking it." This way, the changes made in language help to make the information as easy as possible to comprehend, as it helps avoid cases of misunderstanding. Other helpful methods for boosting content delivery include the use of objects and the explanation by demonstrations. For example, in an inhaler, a pharmacist can draw precisely how to use the product or even demonstrate how to use it appropriately for patients with different bottles or vials of medicine. These make it convenient for patients who need to be in touch with the palpable methods of grasping knowledge [13].

Furthermore, paired with the request to present one's thoughts and questions, using questions like 'Could you explain to me how you are going to take this medicine?' or 'What questions do you have about this product?' enables one to check if a patient knows everything she needs to know about the particular medicine. This allows the pharmacist to assess what he still does not know and explain the same to the learner simultaneously. Through techniques that empower patients and practice effective communication focusing on the patient, pharmacists remain essential in ensuring patients utilize OTC products properly. One must also note that this proactive approach improves patient conditions and increases pharmacist-patient understanding and reliability, which is why retail pharmacies are considered reliable sources of health advice [14].

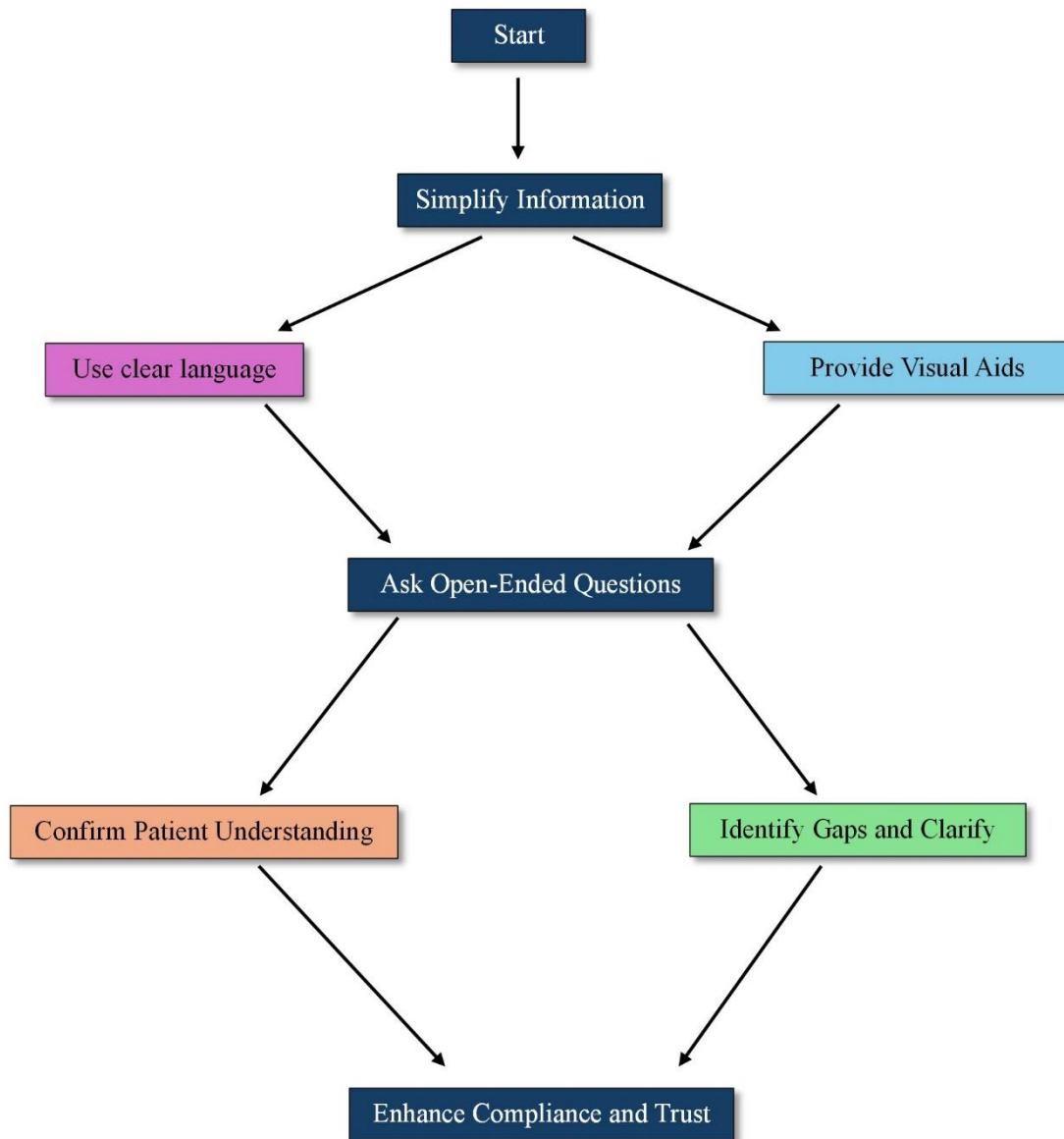


Fig. 1: Methods used by Pharmacists to enhance Patient understanding and adherence

6. Regulatory and Ethical Considerations in OTC Sales

Recommendations/sale of OTC products through retail pharmacies are guided by regulatory requirements and drug ethics to protect clients' health. These regulations that are required of pharmacists ensure that they adhere to high ethical standards while dealing with the flow of products with reference to the health standards in the community, thus providing the community with a professional front in the provision and sale of products.

6.1 Overview of Regulatory Guidelines for OTC Products

Today's OTC products are controlled by national and regional health authorities that develop rules that protect the population when using these drugs without a prescription. In many territories, specific organizations, such as the FDA in America or EMA in Europe, define the guidelines for labeling, dosage, and usage of OTC drugs. These regulations assist the consumer by offering simple, honest information on

labels about the usage of the product, caution, and side effects. Pharmacists need to know these regulations to provide patients with the latest and best advice that they cannot recommend a particular product due to regulatory prohibitions or recall information. These regulatory guidelines also require constant supervision of age limits, such as cough suppressants with dextromethorphan or pain-relieving medicines with acetaminophen. In this way, pharmacists ensure consumer protection and avoid the improper use of drugs available in the OTC category [15].

6.2 Ethical Implications in Product Recommendation and Sale

The professional code of ethics governing virtually all pharmacists' practice demands that they always act in patients' best interest. This can be a favorable recommendation for doctors to patients rather than something that will favor certain companies or customers. Ethical considerations may come into play when patients seek nutrition advice on products they see on social media forums, recipes for rapid weight loss, and loss immunity-boosting products. In such situations, the most important thing for a pharmacist is the safety of patients and reliance on the principles of choice, even if harmful for a specific purchase. On the one hand, pharmacists meet the legal and regulatory standards for OTC products and, on the other hand, act ethically to promote and maintain the correct usage of products while building confidence in the retail pharmacy as a center for accessible healthcare. This commitment to regulatory compliance and ethical integrity enhances the position of pharmacists as guardians of public health and responsible self-medication [16].

7. Conclusion

Community/retail managers pharmacists are responsible for overseeing and managing the use of over-the-counter (OTC) medicines. In that vein, they offer important information and education to patients, empowering and ensuring they do not misuse them. The sub-professionals who contribute to patient safety include pharmacists who must report cases of drug interactions, recommend the proper dosages, and warn patients about the risks of taking prescriptions on their own. They not only improve the safety of the patients but also promote self-directed consumerism. The significant possibilities for the improvement of OTC management are discussed below.

More developments in health care, hence the use of technology like electronic health records, help in the accessibility of the patient's health records and assist in pharmacists' recommendations. Also, Pharmacy education and training can prepare pharmacists with the knowledge to counter ongoing trends in self-prescribing behavior and OTC products. In this regard, pharmacists can enhance and integrate these improvements to cement their position as crucial members of the healthcare system, supervise OTC products, and improve the population's well-being safely. As consumers' demands evolve, pharmacists will remain significant promoters of safe and wise self-medication [17].

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