

REVIEW ON OVER-THE-COUNTER (OTC) MEDICINES: USE, SAFETY, AND ROLE OF PHARMACISTS

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ABSTRACT

Over-the-counter (OTC) medicines are an important component of the healthcare system and play a significant role in self-care. According to the World Health Organization (WHO), self-medication refers to the use of medicines by individuals to treat self-recognized illnesses or symptoms without consulting a registered medical practitioner (RMP). OTC medicines can be sold directly to consumers without a prescription and are generally considered safe and effective when used according to label instructions or under the guidance of healthcare professionals. OTC medicines are commonly used to manage minor ailments such as headache, fever, cold, cough, allergies, acidity, and mild pain. However, inappropriate use, drug interactions, overdose, and use in vulnerable populations such as children, elderly patients, and pregnant women may lead to serious adverse effects. For example, excessive use of

acetaminophen (paracetamol) is associated with liver toxicity, while certain cough and cold preparations may cause increased heart rate and blood pressure. Pharmacists play a vital role in ensuring the safe and effective use of OTC medicines by guiding patients in medicine selection, counseling on dosage, duration, side effects, and preventing misuse. Strengthening pharmacovigilance systems is essential to monitor adverse drug reactions and promote the rational use of OTC medicines.

KEYWORDS: OTC medicines are commonly used to manage minor ailments such as headache, fever, cold, cough, allergies, acidity, and mild pain.

INTRODUCTION

Over-the-counter (OTC) medicines are drugs that can be purchased directly from pharmacies or medical stores without a doctor's prescription. These medicines are commonly used for minor health conditions such as fever, cold and cough, headache, acidity, stomach pain, diarrhea, vomiting, allergies, and minor injuries. Due to their easy availability, OTC medicines provide quick relief and support self-care at home.

OTC medicines are approved by regulatory authorities only after evaluation of their safety, quality, and effectiveness. Clear labeling instructions are mandatory, including dosage, frequency, duration of use, contraindications, and possible side effects. When used correctly, these medicines are generally safe and beneficial.

In India, the use of OTC medicines is increasing due to convenience, cost-effectiveness, and reduced need for medical consultation for minor illnesses. Pharmacists and pharmacy staff play an essential role in guiding patients toward the appropriate selection and use of OTC products.

Despite their advantages, OTC medicines also pose risks. Misuse, overdosing, prolonged use, and inappropriate combinations with prescription medicines can cause adverse drug reactions, mask serious illnesses, and delay proper diagnosis. Advertising and lack of awareness further contribute to irrational use.

Therefore, patient education, pharmacist involvement, proper labeling, government regulations, and pharmacovigilance systems are crucial to ensure the safe use of OTC medicines. This review discusses the types, advantages, disadvantages, safety concerns, labeling requirements, recent developments in India, future trends, and the important role of pharmacists in OTC medicine use.

ADVANTAGES OF OTC MEDICINES

1. Easy Availability

OTC medicines can be purchased without a prescription.

2. Time-Saving

Eliminates the need for doctor visits for minor ailments.

3. Cost-Effective

Generally less expensive than prescription medicines.

4. Quick Relief

Provide immediate treatment for common health problems.

5. Wide Accessibility

Available in pharmacies, supermarkets, and online platforms.

6. Safe When Used Correctly

Approved by regulatory authorities with clear usage instructions.

7. Reduced Burden on Healthcare System

Allows doctors to focus on serious and complex cases.

DISADVANTAGES OF OTC MEDICINES**1. Incorrect Use**

Risk of wrong drug selection or incorrect dosing.

2. Side Effects

Can cause allergic reactions, gastric irritation, or dizziness.

3. Masking of Serious Diseases

Symptoms may improve temporarily while the disease progresses.

4. Drug Interactions

Interactions with prescription medicines, alcohol, or supplements.

5. Risk of Overdose

Easy access may lead to excessive consumption.

6. Unsuitable for Certain Groups

Some OTC medicines are unsafe for children, elderly, or pregnant women.

7. Delay in Medical Consultation

Overdependence on self-medication may delay diagnosis.

SAFETY, MISUSE, AND HARMFUL EFFECTS OF OTC MEDICINES**Safety Guidelines**

- Read and follow label instructions carefully
- Avoid prolonged use without medical advice
- Check active ingredients to prevent duplication
- Use caution in children, elderly, and chronic disease patients
- Avoid mixing OTC medicines with alcohol

- Store medicines safely and check expiry dates

Misuse of OTC Medicines

Misuse refers to using medicines incorrectly, such as.

- Taking higher doses
- Using medicines frequently
- Mixing with alcohol or drugs
- Using medicines for non-medical purposes

Commonly Misused OTC Medicines

- **Dextromethorphan (DXM)** – hallucinations
- **Loperamide** – serious cardiac toxicity
- **Pseudoephedrine** – stimulant-like effects
- **Analgesics** – liver and kidney damage

Harmful Effects

- **Paracetamol** – liver damage
- **NSAIDs** – gastric bleeding, kidney injury
- **Antihistamines** – sedation, confusion
- **Decongestants** – hypertension, tachycardia
- **Laxatives** – dehydration, electrolyte imbalance

LABELING OF OTC MEDICINES

Proper labeling is essential for safe use of OTC medicines. Labels provide information on dosage, frequency, indications, warnings, storage conditions, and expiry date. They also help prevent overdose and harmful interactions.

Label Information Includes

1. Medicine name
2. Active ingredients
3. Dosage instructions
4. Warnings and precautions
5. Storage instructions
6. Expiry date
7. Manufacturer details

ROLE OF PHARMACISTS IN OTC MEDICINES

Pharmacists are key healthcare professionals in ensuring rational OTC medicine use. Their responsibilities include.

- Patient counseling and education
- Selection of appropriate OTC products
- Monitoring drug interactions
- Screening symptoms for serious conditions
- Preventing misuse and overdose
- Ensuring quality, storage, and legality
- Health promotion and preventive care
- Ethical and professional practice
- Community awareness programs

Pharmacists act as the first point of contact for patients seeking self-medication and play a crucial role in safe healthcare delivery.

RECENT DEVELOPMENTS IN THE INDIAN OTC MARKET

1. Development of an official OTC drug list
2. Transition of some prescription drugs to OTC status
3. Stricter safety and labeling regulations
4. Enhanced quality control measures
5. Rapid growth of online pharmacies
6. Improved pharmacovigilance systems
7. Monitoring to prevent illegal sales

FUTURE DIRECTIONS FOR OTC MEDICINES

- Expansion of prescription-to-OTC switches
- Integration of digital health tools and smart packaging
- Personalized OTC products
- Growth in self-care and preventive healthcare
- Stronger regulatory frameworks
- Increase in herbal and natural OTC products
- Expansion of e-pharmacy services
- Enhanced role of pharmacists
- Development of combination OTC products

CONCLUSION

OTC medicines provide convenient, affordable, and effective relief for minor health conditions and support self-care practices. However, irrational use, overdose, and drug interactions can lead to serious adverse effects and delayed diagnosis of major illnesses.

Safe use of OTC medicines requires proper labeling, patient awareness, and professional guidance from pharmacists. In India, the OTC sector is rapidly evolving with improved regulations, digital platforms, and increased focus on pharmacovigilance. With responsible use, strong regulatory control, and active pharmacist involvement, OTC medicines can continue to enhance public health and healthcare accessibility.

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