



REVIEW ARTICLE

OVER-THE-COUNTER DRUGS: AT A GLANCE

*Shweta Ojha

Department of Pharmaceutics, Indian Institute of Technology, BHU, Varanasi, UP, India

ARTICLE INFO

Article History:

Received 24th July, 2016
Received in revised form
04th August, 2016
Accepted 28th September, 2016
Published online 30th October, 2016

Key words:

OTC drugs,
Pharmaceutics,
Drug action.

ABSTRACT

Drugs that are safe and effective for use by the general public without a prescription are defined as over-the-counter (OTC) drugs. These drugs are often located on shelves in pharmacies with easy access by patients, but may also be located in non-pharmacy outlets, such as grocery stores, convenience marts and large discount retailers. Or we can say that the OTC drugs are medicines sold directly to a consumer without a prescription from a healthcare professional, as compared to prescription drugs, which may be sold only to consumers possessing a valid prescription. This paper describes the role of OTC drugs. Reveals the molecular compositions and focuses the impact of these drugs in human body. Highlights the major health problems which are cured by OTC drugs.

Copyright © 2016, Shweta Ojha. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Shweta Ojha, 2016. "Over-the-counter drugs: At a glance", *International Journal of Current Research*, 8, (10), 40513-40515

INTRODUCTION

Over-the-counter (OTC) drugs are medicines that may be sold directly to a consumer without a prescription from a healthcare professional, as compared to prescription drugs, which may be sold only to consumers possessing a valid prescription. In many countries, OTC drugs are usually regulated by active pharmaceutical ingredients (APIs), not final products. By regulating APIs instead of specific drug formulations, governments allow manufacturers freedom to formulate ingredients, or combinations of ingredients, into proprietary mixtures. Self-care is becoming increasingly popular among health care consumers. The availability of over-the-counter medications makes it possible for consumers to treat numerous ailments without the supervision of a health care professional. Many of the medications now available without a prescription were previously classified as prescription-only products. Some drugs may be legally classified as over-the-counter (i.e., no prescription is required), but may only be dispensed by a pharmacist after an assessment of the patient's needs and/or the provision of patient education. In many countries, a number of OTC drugs are available in establishments without a pharmacy, such as general stores, supermarkets, gas stations, etc. Regulations detailing the establishments where drugs may be sold, who is authorized to dispense them, and whether a prescription is required vary considerably from country to country.

Over-the-counter (OTC) medications—drugs available to consumers without a prescription—play an increasingly vital role in our healthcare system and are the most prevalent means of treating the majority of common health problems in the United States. There are over 80 therapeutic categories of OTC drugs which can be grouped in 12 broad therapeutic classes.

Broad Therapeutic Classes of OTC Medications

- Analgesics and antipyretics
- Cold, cough, and allergy products
- Nighttime sleep-aids
- Gastrointestinal products
- Dermatological product
- Other topical products (including dermal and vaginal antifungals, anorectal medications, head lice products, hair loss products, and otics)
- Ophthalmic products
- Oral health care products
- Menstrual products
- Nicotine replacement products
- Weight loss aids
- Vaginal contraceptives and emergency contraceptives

OTC retail sales totaled \$17 billion (excluding Walmart sales) in 2010. Currently, 35% of adult Americans use OTC medications on a regular basis and there is a trend for increasing use as more drugs move from prescription to OTC status. The Center for Drug Evaluation and Research (CDER)

*Corresponding author: Shweta Ojha,

Department of Pharmaceutics, Indian Institute of Technology, BHU, Varanasi, UP, India.

division of the Food and Drug Administration (FDA) regulates OTC medications to ensure that they are properly labeled, their benefits outweigh their risks, their potential for misuse and abuse is low, and that health practitioners are not needed for their safe and effective use.

The benefits of over-the-counter availability include:

- Direct, rapid access to effective medicines
- Wide availability
- Decreased healthcare system utilization (fewer physician visits, lower healthcare system costs)
- Allowing individuals to be in charge of their own health

However, there are risks associated with OTC use, such as:

- Incorrect self-diagnosis delaying diagnosis and treatment of serious illnesses (delay in seeking advice from a healthcare professional)
- Increased risk of drug-drug interactions
- Increased risk of adverse events when not used appropriately
- Potential for misuse and abuse

Use in special populations

Children: The number of children ages 12 and younger being administered an OTC medication in a given time period is more than twice that of prescription medications. The most commonly used OTC medications in children are the analgesics/antipyretics acetaminophen and ibuprofen.

Adolescents: Compared to the general population, adolescents 12–17 years of age use more OTC products for acne and less for allergies and pain relief. Use by adolescents accounts for 38% of acneremedies' sales volume, but for only 7% of the total internal analgesics category volume. Of particular concern are adolescents who abuse alcohol, illicit drugs, and medications including OTC cough medicines containing dextromethorphan. The 2011 Monitoring the Future survey, which looks at 8th, 10th and 12th graders nationwide, showed that in 2010 approximately 5% of the survey participants reported past year use of OTC cough medicine "to get high." For comparison, the ratio of 8th, 10th and 12th graders in this survey reporting the abuse of other substances within the past year was 49% for alcohol, 25% for marijuana, 6% and 4% for the prescription analgesics Vicodin® and OxyContin®, respectively.

Older adults: Adults ages 65 years and over generally have more medical problems and use more medications, both prescription and OTC, when compared to younger adults. In this group, poly-pharmacy is common including multiple OTC preparations and prescription drugs. Age-related changes occur in the elderly, predisposing this population to greater risks of adverse events, drug-drug interactions, therapeutic errors, and misuse. Physicians should refer to the Beers List of drugs potentially inappropriate for the elderly when prescribing and counseling patients regarding OTC drug use. OTC medications of particular concern include diphenhydramine (can cause confusion and sedation), non-steroidal anti-inflammatory drugs (renal dysfunction, gastrointestinal bleeding, hypertension, exacerbation of heart failure), ferrous sulfate (constipation), and mineral oil (aspiration, lipid pneumonia) due to their increased risk of adverse events in older adults.

OTC medications for oral ingestion

- Cough/cold and allergy remedies (711,604,074)
- Analgesics (430,254,703)
- Antacids and anti-gas products (173,320,632)
- Laxatives (114,872,050)
- Diarrhea remedies (22,663,194)

OTC medications for topical use

- Toothpastes (458,370,150)
- Oral antiseptics and rinses (178,368,512)
- First aid treatments* (157,717,515)
- Lip remedies (151,111,158)
- Eye care products (62,401,048)
- Including germicidal antiseptics and topical hydrocortisone

Patient Counseling

Although manufacturers are required to provide appropriate OTC labeling for products classified as OTC medications, patients who are inexperienced in the interpretation of medication labels may have difficulty reading and understanding label instructions. This difficulty could result in misuse of the product, leading to adverse events or drug interactions with prescription medications or other OTC medications. Another concern with reclassified products is that their use may delay effective treatment of more

Symptom	How to Treat	Generic Ingredients
Generalized aches/pains	Analgesic drug	aspirin, acetaminophen, ibuprofen, naproxen
Facial pain	Analgesic drug	aspirin, acetaminophen, ibuprofen, naproxen
Stuffy nose/ congestion	Decongestant drug	pseudoephedrine, phenylephrine, oxymetazoline, naphazoline,
Productive cough	Expectorant	guaifenesin
Sore throat	Anesthetic - Analgesic drug	benzocaine, benzyl alcohol, aspirin, acetaminophen, ibuprofen, naproxen

serious medical disorders because symptoms are relieved by an OTC medication. To help prevent these problems, health care professionals should be prepared to effectively counsel patients regarding appropriate use of OTC medications. Up to 60 percent of patients consult a health care professional when selecting an OTC product, so health care professionals have an excellent opportunity to prevent common problems associated with the use of reclassified drugs and other OTC products. Patients should be provided with verbal information about choosing an appropriate product, correct dosing, common side effects and drug interactions with other medications. While not possible in every situation, an effort should be made to verify that the patient understands the information provided. Asking questions such as, "Just to be sure that I did not forget to tell you anything important, will you tell me how you are going to use this medicine?" after counseling can help the physician assess a patient's understanding and recall of information. Written information can be provided as well but may be less effective without verbal instructions.

Conclusion

OTC medications represent a diverse group of widely available drugs. OTC use is ever increasing and expected to continue to rise. These drugs are safe and effective when used

as directed. However, physicians must be aware that some people--with or without intention--use OTC medications incorrectly. Instruct all patients on the safe and appropriate storage and disposal of all types of medicines. Stay abreast of trends in OTC usage, therapeutic errors, misuse, and abuse. Routinely incorporate OTC conversations during office visits. A list of physician and patient resources is below. Each of these efforts will help your patients to get the maximum benefit out of OTC use while minimizing the risks of incorrect OTC use.

REFERENCES

- Food and Drug Administration (FDA). Regulation of Nonprescription Products. <http://www.fda.gov/AboutFDA/CentersOffices/CDER/ucm093452.htm>. Accessed on March 13, 2013
- World Health Organization (WHO). Guidelines for Regulatory Assessment of Medicinal Products for Use in Self-Medication (Geneva 2000). <http://apps.who.int/medicinedocs/en/d/Js2218e/>. Accessed March 13, 2013.
- JACOBS, LORI R. May, 1998. Prescription to Over-the-Counter Drug Reclassification. <http://www.aafp.org/afp/1998/0501/p2209.html> retrieved on 13.3.2013 at 1.50 pm.
