Regulation of Over-The-Counter Drugs

EDUCATIONAL OBJECTIVES

Upon completion of this activity, participants will be better able to:

1. Describe the background behind the distinction between prescription and OTC drugs and criteria used to differentiate them;
2. Explain the process for approval of OTC drugs;
3. Discuss the misuse of OTC drugs, especially as it applies to analgesics;
4. Identify the problem of OTC drug abuse;
5. Describe the type of restrictions that can be placed on OTC drugs to limit misuse and abuse; and
6. Describe the abuse liability of selected nonprescription products including pseudoephedrine, dextromethorphan, loperamide, diet drugs and e-cigarettes.

Post-test/Rationale:

1. Who has the authority to decide whether a drug is marketed as an OTC or prescription only product?
   - A. The FDA. ***
   - B. The manufacturer.
   - C. The DEA.
   - D. Either the FDA or the manufacturer.
   
   **Correct Answer: A**

   **Educational objective 1**

   **Rationale:** In 1951, the Durham-Humphrey Amendment to the Federal Food, Drug and Cosmetic Act of 1938 (FDCA, the law which regulates the approval and marketing of drugs), established a legal framework to differentiate prescription and non-prescription drugs and authorized the FDA to make the distinction.

2. The Kefauver Harris Amendment mandated that:
   - A. OTC drugs marketed prior to 1962 had to be shown to be effective***
   - B. OTC drugs prove that they have a wide margin of safety,
   - C. OTC drugs could be marketed as a generic version.
   - D. OTC drugs list non-active ingredients on their label.

   **Correct Answer: A**

   **Educational objective 2**

   **Rationale:** An important development in the FDA’s drug oversight occurred in 1962 with the enactment of the Kefauver-Harris Amendment to the FDCA. The main provisions of the Amendment were to require drug manufacturers to provide proof of efficacy for their intended use before the drug (Rx or OTC) could be marketed (proof of safety had already been required by an earlier provision of the law); to permit withdrawal of approval of a drug if there was substantial doubt about its safety or efficacy; and to require that manufacturers report information bearing on safety or efficacy to the FDA.
The Amendment also required a retrospective review of safety and efficacy of drugs approved between 1938 and 1962. The retrospective review included OTC drugs in addition to prescription products.

3. A “monograph” refers to:

   A. A guide to manufacturing an OTC drug.
   B. A list of active ingredients found in an individual drug product.
   C. A list of acceptable active ingredients for an OTC drug that meet the standard of being generally recognized as safe and effective.***
   D. A listing of adverse events associated with OTC drug use.

**Correction Answer: C**

*Educational objective 2*

*Rationale:* The FDA recognized that requiring the submission of over 100,000 product-specific New Drug Applications (NDA’s) would severely disrupt the availability of self-care products. Instead, the FDA designed a system of active-ingredient-specific OTC monographs (a rulemaking process that establishes drug standards).

4. The following criteria may justify the classification of a drug as OTC instead of prescription EXCEPT:

   A. It can be used safely without the supervision of a health care professional.
   B. The patient can make an adequate self-diagnosis.
   C. It has been recommended by the appropriate advisory committee.
   D. It has been used as a prescription drug for more than five years without a history of abuse.***

**Correct Answer: D**

*Educational objective 1*

*Rationale:* The FDA defines OTC drugs as “drugs that are safe and effective for use by the general public without seeking treatment by a health professional”. In essence the differentiation between drug classes is based upon the potential dangers associated with the drug and the degree of supervision needed to safely use the drug, taking into consideration both the nature of the drug and the risks of self-diagnosis by the patient.

5. The FDA recently enacted a change in OTC acetaminophen pediatric formulations that:

   A. Prohibits dosing instructions expressed as milliliters.
   B. Requires a change in the solvent found in the product.
   C. Limits the number of dose units in a pediatric product to no more than 30.
   D. Sets a recommended limit on the concentration of acetaminophen in a pediatric product.***

**Correct Answer: D**

*Educational objective 3*

*Rationale:* The FDA recommended moving to a single, standardized acetaminophen concentration for OTC pediatric oral liquid drug products (160 mg/5ml) in order to minimize the risk of confusion caused by multiple concentrations.
6. The most commonly abused OTC drug is generally considered to be:

   A. Pseudoephedrine.
   B. Dextromethorphan.  ***
   C. Loperamide.
   D. Antihistamines.

**Correct Answer: B**

_Educational objective 4_

**Rationale:** Table 1: Top 10 Abused OTC Drug Categories

Dextromethorphan.

When drug abuse is mentioned, one typically conjures up images of “street” drugs like heroin or prescription drugs like oxycodone. However, OTC drugs are also subject to abuse, but are not as well appreciated. The full extent of the problem is not readily apparent and usually focuses on cough and cold products containing dextromethorphan.

7. Which of the following is NOT a requirement for selling pseudoephedrine?

   A. An ID must be presented.
   B. Purchaser must sign a log book.
   C. No more than 9 grams of pseudoephedrine may be sold per transaction.  ***
   D. The drug product must be stored where it is inaccessible to the general public.

**Correct Answer: C**

_Educational objective 5_

**Rationale:** Restrictions were placed on retail sales of pseudoephedrine (PSE) as a result of Congressional passage of the Combat Methamphetamine Epidemic Act (CMEA) which became effective in 2006. The Act covers sales of phenylpropanolamine and ephedrine in addition to PSE, but since the first two decongestants were subsequently withdrawn by the FDA due to safety concerns, the Act now applies only to PSE. Under the Act, purchasers are limited to 3.6 grams of pseudoephedrine base per day (not per transaction), and a total of 9 grams per month [7.5 grams for mail order].

8. Which of the following is NOT a risk associated with laxative abuse?

   A. Electrolyte disturbances.
   B. Tolerance.
   C. Headache.  ***
   D. Abnormal heart rhythm.

**Correct Answer: C**

_Educational objective 6_

**Rationale:** Adverse effects of laxative use include diarrhea, GI cramping and pain, severe electrolyte disturbances especially hypokalemia, muscle weakness, cardiac arrhythmias and hemorrhagic and ischemic stroke, acid-base disturbances, renal and hepatic disorders, dehydration and death.
9. Which statement is correct with respect to the FDA’s regulation of e-cigarettes?
   A. The FDA has had the authority to regulate tobacco/nicotine for more than 50 years but failed to exercise the authority.
   B. In enacting regulations, one of the FDA’s concerns was the rise in e-cigarette use by adolescents. **
   C The FDA can limit the amount of nicotine in e-cigarettes but cannot regulate other ingredients.
   D The FDA can restrict the advertising and promotion of e-cigarettes but cannot prohibit sales.

Correct Answer: B

Educational objective 6

Rationale: In its new rule, the FDA deemed cigars, pipe tobacco, waterpipe tobacco and other products including electronic nicotine delivery systems (ENDS) subject to regulation. In essence these other products are subject to the same restrictions that the FDA may place on traditional tobacco cigarettes. In contrast, conventional products specifically intended for smoking cessation are generally subject to the FDA’s usual drug approval process for therapeutic agents. In enacting the deeming provision, the FDA expressed concern over the “alarming” increase in the use of e-cigarettes by middle school and high school students. Some key features of the e-cigarette regulations are age restrictions on sales, health warnings on product packages (‘‘WARNING: This product contains nicotine. Nicotine is an addictive chemical’’ or ‘‘This product is made from tobacco’’ if it does not contain detectable nicotine), prohibition of vending machine sales and distribution of free samples, and submission of ingredients to the FDA for review.

10. The FDA is considering modifying its OTC approval process because:

   A. There are too many drugs containing acetaminophen.
   B. Many OTC drugs need to be reclassified as prescription products.
   C. The existing process is too cumbersome to quickly institute new warnings or labelling. **
   D. The existing process does not account for the special needs of seniors.

Correct Answer: C

Educational objective 2

Rationale: The FDA is reconsidering how it regulates OTC drugs, recognizing that the current monograph system, enacted more than 50 years ago, is too cumbersome to adjust to emerging issues of safety and oversight and sought public input in 2014. Among the problems cited by the FDA are that there are many products for which there are no final monographs, some existing monographs may lack sufficient data for the FDA to determine safety and efficacy, and there are limitations on the ability of the FDA to quickly require new warnings or other labelling changes when new information on safety or efficacy emerge.