



**ORIGINAL RESEARCH PAPER**

**Pharmaceutical Science**

**“COUNTERFEIT MEDICINE”**

**KEY WORDS:** Counterfeit medicine, Side effects, Developed country.

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**ABSTRACT**

Counterfeiting drugs is a major problem in developing and developed countries. It is prevalent in countries whether drug regulation and enforcement are weak. Counterfeit drug includes those drugs that either no active ingredient or have different active ingredients or active ingredient with different strength compared to authentic drugs. Various method to detect the counterfeit medicine is visual inspection. Careful visual inspection and comparison to original product can be made with respect to the product, packaging and labelling. Counterfeit medicine caused serious side effects on body.

**INTRODUCTION**

Counterfeit medicinal drugs includes those with less or none of the stated active ingredients, with added sometimes hazardous , adulterants, substituted ingredients, completely misrepresented or sold with false brand name. Or drugs that have passed their date of expiry are sometime remarked with false dates.

Low quality counterfeit medicine may causes any of several dangerous health problems including side effect or allergic reaction, in addition to their active ingredients.

However incidence of the counterfeit drug in the U.S. is rear relative to large number of prescription drug used.

Health care provider and consumers need to be aware of how they could be exposed to counterfeit medicines. Watch out for possible sign of counterfeit drugs

1. Does the drug or packing look different than what you normally receive
2. Has the consumer experienced a new or unusual side effect after using the drug
3. Did the consumer buy the drug from an internet seller?

**There are two type of fake medicine**

1. Product that imitate genuine medicine
2. Products that make false claims about their ingredient.

**The counterfeit medicine could have:**

- No active ingredient
- Substandard ingredients
- Undeclared ingredient
- Illegal or dangerous ingredients
- Incorrect dosage ( too much, too little or variation in dose across table)
- Contaminant form unhygienic condition.

**Health risk of counterfeit:**

All unapproved therapeutic goods having a risk, and counterfeit goods have a much greater risk. A fake medicine may fail to treat the disease, which can be fatal if medicine is used to treat a life threatening condition. Each year number of children are die because of fake and substandard pneumonia and malaria medicine alone.

Fake medicine can cause unexpected adverse reaction if they have contaminants.

**How to identify fake medicine in India:**

Fake medicine in India is a big problem. As pharmaceutical companies are highly profitable, many counterfeit are lured towards creating a duplicate medicine, causing a treat to human life. Checking a medicine for genuineness is not an easy task but can be done by following these tricks.

**1. Check the packaging:**

This is simplest and easiest method of check the authenticity

of medicine. Check the packaging for detail like unusual font, print colour, and spelling error. Analyse whether it appears the same or different from one you have used before.

**2. No breakage in the seal:**

The security seal (especially in bottle medicines) should not be damaged. Look for a crack or breaks in the sealing tape.

**3. Check the tablets/dosage form:**

Look for dissimilarities in physical appearance of the drug like its colour, size, uniformity, consistency, shape. Etc.

**4. Physical attribution of tablets:**

As stated by world health organization, the common physical attributes that need to be looked out in medicine tablet are:

- Small piece of tablet or excessive powder at the bottom of the medicine container
- Crack in the tablet
- The appearance of crystal on the container wall or on the medicine tablets.
- Softening or hardening of the medicines
- Swelling , spot or discoloration of the table

**5. Allergy and unexpected side effects:**

Most of medicines have mild side effects. It is important to consult your doctor before the usage to check on allergies arising from it. If you notice certain unexpected or harmful side effects from your medication, report to your doctor immediately

**6. Price:**

If the price of the medicine is suddenly far cheaper than the usual drug rate, double check the product as there may be a chance that the fake companies wanted to lure customer by providing medicine at much cheaper rate.

**7. Verify medicine by online or SMS:**

Pharma secure is working with manufacturers to protect against counterfeit. Unique identification code along with a barcode is printed on medicine packages or strips. Consumers can send the unique authentication code by SMS to 9901099010 to receive an authentication message from the pharmaceutical manufactures to confirm the authenticity of the drug being purchased.

- Go to Pharma secure website
- Select your country
- Enter your mobile number and authentication code printed on the medicine strips
- Enter word verification and hit verify button.
- That is it ... once done, you will get an SMS with result.

The authentication code is different from the batch numbers. The authentication code may not be available on all medicines expect for some expensive medicines.

**8. vendors:**

The pharmaceutical industry is flooded with a plethora of

medicine brand. Purchasing medicine from reputable pharmacy or good medicine brand will greatly reduce your chances of buying fake drugs. Stop buying from unqualified and illiterate street vendors.

9. [www.cbnews.com/news/feds-seizefake-lipitor](http://www.cbnews.com/news/feds-seizefake-lipitor)

**9. Detail on the drugs:**

Match whether the expiry date, batch number and address of manufacturer on the secondary package are same as that on the primary package. We can also check medicine batch number online to verify its authentication.

**10. Verify manufacturer address:**

To verify manufacturer origin is simple and easy only when it comes from a reputable, international company that has a well-tracking system in place. But that's often not the scenario as fake companies can't get their exact address printed on the medicines. In that case check if the manufacturer address is traceable i.e. whether it contains the exact location of the company and not just the country name.

**Risk related to fake medicine:**

- The quality of the active ingredient in fake medicine may not be accurate
- It may contain totally different active ingredient that may cause serious side effects
- The process by which it is manufactured may not coincide with the good manufacturing practice or not according to the policies of the drug technical advisory board.
- It may contain toxic ingredients.
- It may have forged manufacturers data on the medicine package.
- It may not have been stored or transported properly.

**Examples of counterfeit medicine:**

1. Three batches of counterfeit Procrit (epoetin alpha) by ortho biotech, found March 2003. Product contained no active ingredient.
2. Pronstan is an anti-inflammatory product. This counterfeit was found in Columbia contains yellow powder, it consists of boric acid, floor wax, highway paint.

**Status of counterfeit drug in developing countries.**

- Counterfeiting thrives in developing countries because of
- High cost and limited resources
  - Black market operations.
  - Lack of infrastructure and technical expertise to regulate and police criminal activity.
  - Corruption and prize control

**How to stop counterfeiting:**

**In November 2003 drug and cosmetic act committee made certain recommendation:**

1. Severe vigilance must be maintained with regular surprise check
2. Enhancement of penalties and prison term from life imprisonment to death sentence
3. Establish national drug laboratories with high quality testing facilities.
4. Penalty to those who are unable to produce documents in support of purchasing drugs
5. Constitution of special court for the trial of offence under the drug and cosmetic act so that so that judicial proceeding can be expedited.
6. There are no accessible testing services for fake drug anywhere in the country.

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