

METHODS OF MEDICINES' PACKAGES PROTECTION FROM COUNTERFEITING

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Introduction. According to the World Health Organization experts today the share of counterfeit medicines in the total volume of the global pharmaceutical market is about 10%. One of the global and important problems of Pharmacy is the fight against counterfeiting of medicines, which is a risk to human health and undermines confidence in the legal pharmaceutical manufacturers and national health authorities. Thus, the protection of drugs packages is important in pharmaceutical anti-counterfeiting.

Aim. Analysis of special materials and paints use on the packages of drugs in order to protect them from tampering.

Materials and methods. Logical and analytical techniques for the analysis of methods of protection of medicines packages.

Results and discussion. The use of special materials for the manufacture of packages and labels is quite an effective way of fighting counterfeit medicines.

To protect against counterfeiting, as one of methods is used partial or complete coloring of paper in the mass or on the surface. Such paper is characterized by poor color stability to wet processing, so for fixing the paints use special substances, such as dicyandiamide with formaldehyde. To improve the stability of color during coloring of paper in the mass and on the surface, are used diazo and triazo dyes based fixers. Special inclusions in the label material may be found either on the surface or inside, under surface layers. The most widely used are such inclusions as protective fiber strands (fibers and strips of various lengths and colors may be visible under normal or special lighting, for example, UV light); metallised threads and strips; microparticles (multicolor particles of various sizes may exhibit different properties at certain conditions); radiation particles (to material are included microscopic doses of rare earth elements, which possess weak radiation - harmless to humans, but very easily detected by special detectors). To improve products protection level use paints that change color under radiation, invisible fluorescent, microencapsulated, metallised, reactive to chemical agents. Materials applied using special equipment include magnetic, thermochromic sensitive, UV, IR-paints.

Conclusion. The use of special materials and paints for packages of medicines is one of effective ways to protect medicines from counterfeiting and a barrier on the way of counterfeits distribution.