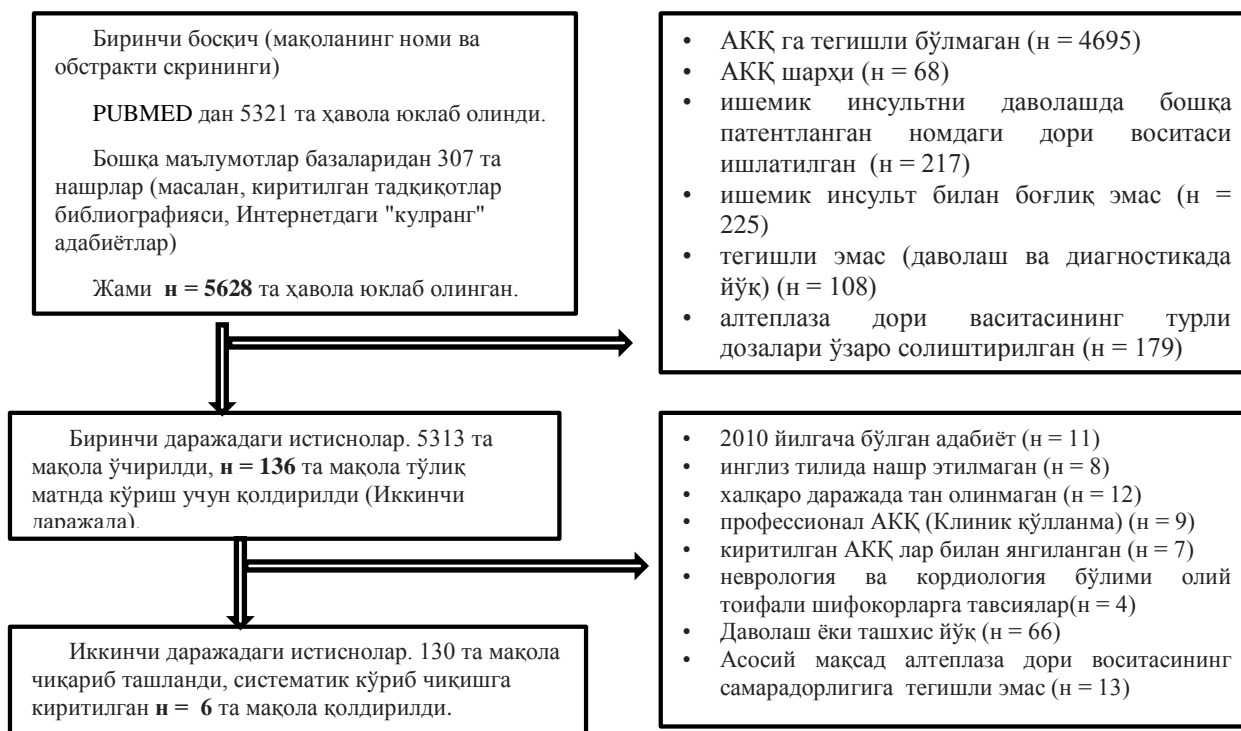


Иккала скрининг даражасида истисноларни келтириб чиқарадиган якуний ПРИЗМА блок схемаси



Хулосалар: ушбу натижаларга таянган ҳолда мавзу юзасидан тизимли таҳлилни олиб бордик ва олинган натижалар шуни кўрсатдики, ишемик инсульт касаллигини даволашда қўлланиладиган тромболитик дори воситаси алтеплаза клиник жиҳатдан самарали бўлиб, ноҳўя ва ён таъсирлари кам. Иқтисодий жиҳатдан бир мунча қиммат бўлсада, ушбу плазмаген активатори реабилитация жараёнининг энгил ва арзон кечишида ва сифатли ҳаёт йиллари сони (QALY) юқори бўлишида муҳим фактор бўлиб хизмат қилади.

USE OF MODERN TECHNOLOGIES FOR PREVENTION OF FALSIFICATION OF MEDICINES

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Actuality: the falsification of medicines is a pressing issue in the field of public health, both nationally and internationally, especially in low- and middle-income countries. According to WHO research, almost 10 % of all drugs used in low- and middle-income countries are counterfeit. In Ukraine, along with the dynamic development of the pharmaceutical industry, there is a functioning of the shadow business in the field of drug trafficking and intensification of drug counterfeiting, resulting in a recent trend of increasing the number of counterfeit drugs in the domestic pharmaceutical market. According to the State Service of Ukraine for Medicines and Drug Control, in Ukraine the circulation of falsified drugs is not more than 2%. At the same time, the statistics reflect only the number of falsified drugs detected by the state control authorities and do not take into account the sale of falsified drugs via the Internet, which has now become large-scale and poses a serious threat to public health. As well as the technology of manufacturing of falsified drugs is improving every year, so to distinguish the original drug from counterfeit is possible only using special knowledge and technology. The complexity of packaging, which precludes reproducing the design in the supply chain of drugs, is currently one of the most effective modern ways to protect

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drugs from counterfeiting. This thesis was supported at the international level. The newest tool in the fight against drug falsification is the labeling of drugs using two-dimensional codes (Data matrix, QR - code). EU countries have integrated this global strategy into their healthcare systems at a rapid pace.

Goal: to consider modern methods of drug protection against falsification and approaches to the introduction of the drug labeling system in Ukraine.

Materials and methods: in the study used methods such as systemic to analyze the current state of the problem of counterfeiting drugs, regulatory and documentary methods to analyze the legal framework, regulatory legal acts in the field of drug quality control, instructional and methodological documents and sources of scientific literature on quality control of medicines to study modern analytical approaches to identify counterfeit medicines.

Results: the analysis of scientific sources allowed to determine the most promising at the present stage of technology to protect drugs from counterfeiting:

1. SFERA is a technology of laser engraving on glass. It allows you to apply engraving with a two-dimensional bar code on the inside of the bottle, directly when packing the drug, without damaging the glass. In combination with special readers, this technology allows you to recognize even the most advanced counterfeits.

2. RFID - technology (radio frequency identification) allows you to track individual packages of drugs in the batch, determining their origin through electronic registration and allows you to reliably protect the movement of drugs from the penetration of counterfeit.

3. EPCIS technology - provides a secure and reliable exchange of information about events throughout the movement of drugs.

4. HACCP technology, which is a system of risk analysis and management of critical process points and can be successfully used for the safety of pharmaceutical chains.

5. Two-dimensional bar code is a symbol designed to encode a large amount of information. This technology should be used by all participants in the circulation of drugs to enter in the barcode of detailed information about the drug. Currently, the following types of two-dimensional barcodes are used in pharmacy: Data Matrix; Maxi Code; QR code, etc. At the same time, none of the domestic manufacturers conducts such protection methods against falsification as RFID, HACCP, SFERA, EPCIS, 2D - bar coding and others.

The latest effective tool in the fight against drug falsification is serialization or 2D - coding (Data Matrix). This method of protecting original drugs is introduced every year by more and more manufacturers in different countries. This is the provision of a number with an individual serial code (2 - dimensional bar code) for the packaging of drugs and the implementation of coding with other data that are applied to the secondary packaging. At the same time, each subject of drug circulation must enter information into a single automated monitoring system, which makes it possible not only to identify drugs, but also to track the entire chain of its movement.

In April 2019, Ukraine approved the Concept for the implementation of state policy to prevent drug counterfeiting, which provides for the gradual introduction marking with control (identification) signs (2D) - coding) and monitoring the circulation of drugs with the involvement of entities engaged in economic activities related to the circulation of medicines. This will allow you to track the entire supply chain from production or import to sale at the pharmacy and the end consumer will be able to check when buying your own medication using a mobile smartphone app by scanning the 2D bar - code, and obtain information on whether the drug is counterfeit, overdue or imported into Ukraine in violation of the law. The implementation of the Concept will be carried out in 2019 - 2023 in three stages. The launch of the pilot project was planned in Ukraine from September 1, 2019, but its start was postponed until November 1, 2020, given the need to harmonize the labeling system with the requirements of the European Union and amendments to domestic regulations.

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Conclusions: thus, the development and implementation of effective methods of protection of drugs against counterfeiting is an important task aimed at ensuring the drug safety of the state. The complex nature of the use of modern protection technologies in combination with legal and organizational measures will reliably protect drugs from counterfeiting and guarantee the consumer their proper quality.

FORMING A COMMUNICATION STRATEGY FOR A PHARMACEUTICAL COMPANY WITH PHYSICIANS

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Relevance. Every year, new medications of innovative classes appear on the global pharmaceutical market and need to be prescribed by a physician. Sooner or later, these medications will enter the arsenal of health professionals in every country. By that time, the physician should have complete and comprehensive information about the medication.

Research Objective. The goal of the research was to develop a communication strategy between the pharmaceutical manufacturer and the physicians who would prescribe them.

Materials and Methods. The study used data from the marketing departments of large pharmaceutical companies, which have their own external service. Also, using questionnaires and the method of expert evaluations, the main difficulties in the work of both medical representatives and physicians were identified.

Results. At the first stage the information about global trends and the situation on the pharmaceutical market of Ukraine was collected. It was established that the pharmaceutical market in Ukraine is particularly influenced by the group of countries belonging to the “Pharmerging Markets”. The analysis of Ukrainian market capacity in money and volume terms was carried out, the ratio of original drugs and generics as well as the balance between imported medicines and medicines produced in Ukraine was established. It is highlighted that the typical Ukrainian doctor is dissatisfied with his work and salary and feels isolated from the world medical society. The workload of doctors is increasing, a lot of time is spent on reporting, only 70-80% of appointments are spent on data entry. Additional sources of problems in medicine are prevention, which is underdeveloped, problems of early diagnosis, rehabilitation and palliative care.

Pharmaceutical companies can improve the level of health care in the country by producing high-quality medicines, which they can sell at prices affordable to the public. Increase the qualifications of physicians and their knowledge of best practices and treatment standards, knowledge of medicines and the ability to use them correctly this can be achieved through the promotion of medicines. To do this, the pharmaceutical manufacturer must develop its communication strategy with physicians using the work of medical representatives. The work offers various methods for determining the potential of the territory in which the company is going to operate. A number of methods for determining this parameter are considered, and in particular: the “cluster model”, the model of “attractiveness and effectiveness”, coverage of the territory depending on the regional structure of the company. Another feature of the proposed strategy is the ability to use three marketing tools to determine the potential: Porter's Five Forces of Competition, Cartesian Square and SWOT analysis.

The main misconceptions in working with physicians are also described, taking into account Marston's definition of psycho-type and Rogers' diffusion of innovation. Methods for selecting physicians of the right specialties for the promotion of a particular brand based on the analysis of information available to marketers are proposed. The methods of determining the potential of a physician are detailed, and the need to create an individual strategy for working with a particular category of health professionals is disassembled. In detail the strategy of 360 degrees in the work