

## BENEFITS AND SIDE EFFECTS OF MEDICATIONS

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*Medicines are important in maintaining human health, treating diseases, and preventing them. This article will highlight the main benefits of medications, namely their role in relieving symptoms of the disease, improving quality of life, and speeding up the healing process. At the same time, special attention is paid to side effects caused by improper or excessive use of drugs, their negative effects on the body, and precautions. The article aims to explain the dangers of rational use of medicines, following doctor's recommendations, and self-medication..*

**Introduction:** Human health is one of the important factors in the development of society. In the healthcare system, medicines play an invaluable role in the detection, treatment and prevention of diseases. Thanks to the achievements of modern pharmacology, the possibilities of effective treatment of various diseases are expanding. However, when using medications, it is important to consider not only their benefits, but also their potential side effects. Any drug, while having a certain therapeutic effect, can also cause negative consequences if used incorrectly or due to individual characteristics of the organism. In particular, self-medication, overdose, or failure to follow a doctor's recommendations can lead to the development of various complications. In this article, the useful aspects of drugs, their positive effects on the

human body and possible side effects are widely covered and the issues of rational and safe use of drugs are analyzed.

**Main part:** Medicines are an important tool in the treatment and prevention of diseases by having a targeted effect on the human body. They are divided into different groups according to their pharmacological properties: antibiotics, antiviral agents, hormonal drugs, painkillers, anti-inflammatory drugs, etc. Each group is used against a specific type of disease and has its own mechanism of action. The main benefit of medications is their therapeutic effectiveness. For example, antibiotics can eliminate bacterial infections and help the disease heal faster. Antiviral drugs slow down or stop the proliferation of viruses. Hormonal drugs, on the other hand, play an important role in normalizing the functioning of the endocrine system. In addition, analgesics (painkillers) and antipyretics (fever-reducing agents) help improve the patient's general condition. Medicines are also widely used for preventive purposes. Vaccines create immunity in the body and prevent infectious diseases. In addition, vitamin and mineral complexes increase the body's defenses and increase resistance to various diseases. In chronic diseases, medications are taken over a long period of time to help control the disease. However, along with the positive effects of drugs, there are also side effects. Side effects occur depending on the pharmacodynamic and pharmacokinetic properties of the drug. Pharmacodynamics studies how a drug affects the body, while pharmacokinetics studies its absorption, distribution, metabolism, and excretion in the body. Changes that occur during these processes sometimes lead to adverse reactions. The most common manifestations of side effects include allergic reactions (rash, itching, swelling), gastrointestinal disorders (nausea, vomiting, diarrhea), central nervous system-related conditions (dizziness, drowsiness, headache). In some cases, serious complications may occur, such as anaphylactic shock, liver or kidney failure, and heart rhythm disturbances. Side effects of medications are often associated with improper administration. For example, overdose (overdose) has a toxic effect on the body. Taking multiple medications at the same time can increase or decrease their interactions. This is called "drug-drug interaction" and can negatively affect the effectiveness of treatment. Also, patients in some groups-children, the elderly, pregnant women and individuals with chronic diseases-will be more sensitive to medication. For this reason, special care is required when choosing a drug for them and determining the dosage. For example, some medications can have a negative effect on fetal development during pregnancy. To use medications safely, it is necessary to follow a number of rules: take medications only on the recommendation of a doctor, strictly follow the instructions, do not

exceed the prescribed dose, complete the course of treatment on time, and store medications properly. It is also important to pay attention to the expiration date of the medicine.

**Conclusion:** Medicines play an important role in modern medicine in treating diseases, preventing them, and maintaining human health. When used correctly and appropriately, they are highly effective, accelerating the healing process of patients and improving their quality of life. However, uncontrolled or improper use of medications can lead to various side effects and complications. In particular, overdose, self-medication, and failure to follow doctor's recommendations can lead to serious adverse consequences. Therefore, caution, knowledge, and responsibility are required when using medications. Everyone should consult a specialist before taking a medication, follow the instructions, and take a conscious approach to their health. Only in this way can the benefits of medicines be fully utilized and their adverse effects minimized.

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