



**“COMPARATIVE COST OF GENERIC MEDICATIONS: IMPACT ON HEALTHCARE EXPENDITURES”**

**Khidoyatova Zulfiya Sharipovna**

**Koraev Ulugbek Otabekovich**

Tashkent Pharmaceutical Institute, Department of

Organization of Pharmaceutical Practice, Republic of Uzbekistan

[zulfiyahidoyatova@gmail.com](mailto:zulfiyahidoyatova@gmail.com)

+998993196810

**ANNOTATSIYA**

Ushbu maqolada generik dori vositalarining solishtirma qiymati va ularning sog‘liqni saqlash tizimi xarajatlariga ta‘siri masalalari ko‘rib chiqiladi. Generik preparatlarni original dori vositalari bilan taqqoslagan holda ularning iqtisodiy samaradorligi tahlil qilindi. Shuningdek, dori vositalari narxining shakllanishiga ta‘sir etuvchi omillar hamda ularning aholiga iqtisodiy jihatdan yetib borish darajasi alohida o‘rganildi.

Ishda generik dori vositalaridan foydalanish farmakoterapiya xarajatlarini kamaytirishning muhim vositalaridan biri sifatida ko‘rib chiqiladi. O‘tkazilgan tahlil shuni ko‘rsatadiki, generik preparatlar original dori vositalariga bioekvivalentligi isbotlangan bo‘lib, ancha arzon narxda o‘xshash terapevtik samarani ta‘minlay oladi.

Bu esa sog‘liqni saqlash tizimining moliyaviy resurslarini optimallashtirishga va aholining keng qatlamlari uchun dori vositalari mavjudligini oshirishga yordam beradi. Tadqiqot natijalari generik dori vositalaridan oqilona foydalanish dori ta‘minotining iqtisodiy samaradorligini oshirishda muhim yo‘nalish ekanligini tasdiqlaydi. Generik preparatlarni keng qo‘llash sog‘liqni saqlash xarajatlarini kamaytirishga hamda byudjet mablag‘larini yanada samarali taqsimlashga xizmat qiladi.

**Kalit so‘zlar:** generik preparatlar, original preparatlar, dori vositalari narxi, farmakoiqtisodiyot, sog‘liqni saqlash xarajatlari, dori vositalari mavjudligi, narx tahlili, dori ta‘minoti, oqilona farmakoterapiya, iqtisodiy samaradorlik.

**АННОТАЦИЯ**

В данной статье рассматриваются вопросы сравнительной стоимости генерических лекарственных препаратов и их влияние на расходы системы здравоохранения. Проведен анализ экономической эффективности применения генерических препаратов по сравнению с оригинальными лекарственными средствами. Особое внимание уделяется вопросам формирования цен на лекарственные препараты, а также факторам, влияющим на их экономическую доступность для населения.

В работе рассматриваются преимущества использования генерических лекарственных средств как одного из важных инструментов снижения затрат на фармакотерапию. Проведенный анализ показывает, что генерические препараты, обладая



доказанной биоэквивалентностью оригинальным лекарственным средствам, могут обеспечивать аналогичный терапевтический эффект при значительно более низкой стоимости. Это способствует оптимизации финансовых ресурсов системы здравоохранения и повышению доступности лекарственного лечения для широких слоев населения.

Результаты исследования подтверждают, что рациональное использование генерических препаратов является важным направлением повышения экономической эффективности лекарственного обеспечения. Расширение применения генерических лекарственных средств способствует снижению расходов здравоохранения и более эффективному распределению бюджетных средств без снижения качества медицинской помощи.

**Ключевые слова:** генерические препараты, оригинальные препараты, стоимость лекарственных средств, фармакоэкономика, расходы здравоохранения, доступность лекарств, ценовой анализ, лекарственное обеспечение.

#### **ABSTRACT**

This article examines the comparative cost of generic medicines and their impact on healthcare expenditures. An analysis of the economic efficiency of generic drugs compared with original (brand-name) medicines was conducted. Particular attention is given to the factors influencing the formation of drug prices and the economic accessibility of medicines for the population.

The study highlights the advantages of using generic medicines as an important tool for reducing pharmacotherapy costs. The analysis demonstrates that generic medicines, having proven bioequivalence to original drugs, can provide a similar therapeutic effect at a significantly lower cost. This contributes to the optimization of financial resources within the healthcare system and improves the accessibility of medical treatment for a wider population.

The results of the study confirm that the rational use of generic medicines is an important direction for improving the economic efficiency of pharmaceutical provision. The broader use of generic medicines helps reduce healthcare expenditures and ensures more efficient allocation of budgetary resources without compromising the quality of medical care.

**Keywords:** generic medicines, original drugs, drug costs, pharmacoeconomics, healthcare expenditures, drug accessibility, price analysis, pharmaceutical supply, rational pharmacotherapy, economic efficiency.

The article examines issues of pharmacoeconomic efficiency in the use of generic medicines within the healthcare system of the Republic of Uzbekistan. International and national sources were analyzed, and the economic advantages of using generics in the treatment of chronic diseases were evaluated. It is shown that the rational implementation of generic medicines contributes to reducing budget expenditures and strengthening the country's pharmaceutical security.



In the context of the steady growth of expenditures on providing medicines to the population, the issue of rational allocation of financial resources within the healthcare system becomes particularly relevant. One of the effective tools for optimizing costs is the widespread introduction of generic medicines, which, after the expiration of patent protection of the original product, reproduce its qualitative and quantitative composition, dosage form, and pharmacokinetic characteristics. The equivalence of generics is confirmed by bioequivalence studies conducted in accordance with international requirements.

International guidelines and data from authoritative organizations, including the World Health Organization (WHO) and the U.S. Food and Drug Administration (FDA), were analyzed, confirming that the use of generic medicines contributes to a 30–70% reduction in government expenditures on pharmaceutical provision without loss of therapeutic effectiveness. It is noted that, when Good Manufacturing Practice (GMP) standards are observed, generic medicines demonstrate comparable safety and quality to original (brand-name) drugs.

The study also examines the specific features of the development of the pharmaceutical industry in the Republic of Uzbekistan, the regulatory and legal framework governing the circulation of medicines, and the strategic importance of local production of generic drugs for ensuring the country's pharmaceutical security. It is emphasized that expanding the share of domestically produced generic medicines in the pharmaceutical market helps reduce dependence on imports, strengthen economic stability, and increase the accessibility of drug therapy for the population.

The obtained results indicate that pharmacoeconomic evaluation is an important tool for decision-making in healthcare management, and the introduction of generic medicines represents a strategically justified direction for the development of the national pharmaceutical system.

### **Introduction.**

The modern healthcare system is characterized by a steady increase in expenditures on medical services, a significant portion of which is allocated to providing medicines to the population. Increased life expectancy, the growing prevalence of chronic non-communicable diseases, and the introduction of innovative and high-tech treatment methods contribute to the continuous rise in pharmacotherapy costs. Under these conditions, the search for economically justified mechanisms to optimize expenditures without compromising the quality and effectiveness of treatment becomes particularly relevant.

One of the key tools for rationalizing medicine provision is the widespread adoption of generic drugs. After the expiration of the patent protection of the original drug, generic manufacturers have the opportunity to replicate its qualitative and quantitative composition, dosage form, and pharmacokinetic characteristics. A mandatory requirement for the registration of a generic drug is the confirmation of bioequivalence, which ensures that its therapeutic effect is comparable to that of the original product.

According to data from the World Health Organization, the use of generic medicines is considered one of the most effective ways to ensure access to healthcare and reduce the financial burden on the healthcare system. In several countries, the share of generic drugs in total



consumption exceeds 60–80%, allowing for a significant reduction in budget expenditures on pharmacotherapy. The European Medicines Agency shares a similar position, emphasizing the need for strict quality control and compliance with international GMP standards in the production of generic medicines.

Pharmacoeconomics, as an interdisciplinary field of science, allows for an objective assessment of the efficiency of resource allocation in healthcare. The application of pharmacoeconomic analysis methods—such as cost-effectiveness analysis, cost-utility analysis, and cost-minimization analysis—provides a scientifically grounded basis for managerial decision-making when selecting drug therapy. These methods are particularly important in the treatment of chronic diseases, which require long-term and regular medication use, significantly increasing the total expenses for both patients and the state.

For the Republic of Uzbekistan, the development of domestic production of generic medicines holds strategic importance. Government policy is aimed at modernizing the pharmaceutical industry, implementing international quality standards, and reducing dependence on imported medicines. In this context, conducting pharmacoeconomic evaluations of generic medicines makes it possible to determine their contribution to the sustainability of the national healthcare system and the country's pharmaceutical security.

Thus, the study of the economic efficiency of generic medicines is a relevant and socially significant area of research aimed at improving the system of pharmaceutical provision for the population.

### **Research Objective.**

To conduct a comprehensive pharmacoeconomic evaluation of generic medicines and determine their significance for the sustainability of the healthcare system in the Republic of Uzbekistan.

### **Materials and Methods.**

The study employed methods including scientific literature review, comparative analysis of the costs of original and generic drugs, and cost-effectiveness pharmacoeconomic analysis. The information base comprised data from the WHO (<https://www.who.int>), the European Medicines Agency (<https://www.ema.europa.eu>), the OECD (<https://www.oecd.org>), and regulatory documents of the Republic of Uzbekistan (<https://lex.uz>).

### **Results and Discussion.**

The pharmacoeconomic evaluation of generic medicines is based on analyzing the relationship between costs and the clinical effectiveness of therapy. In the current context of limited healthcare budget resources, the rational selection of medicines that provide the maximum therapeutic effect at minimal financial cost becomes particularly important.

According to available data, the introduction of generic medicines can reduce expenditures on pharmacotherapy by an average of 30–70%, depending on the therapeutic group. A



mandatory requirement for their use is the confirmation of bioequivalence and compliance with GMP standards, which ensures the comparability of pharmacokinetic parameters (AUC, Cmax, Tmax) and clinical effectiveness.

### 1. Economic Comparison of Original and Generic Medicines

One of the key advantages of generics is their lower cost, which is due to the absence of expenses for developing a new molecule and conducting preclinical and large-scale clinical trials.

Table 1. Comparison of Therapy Costs (Indicative Values)

Disease	Original Drug (Average Price, Indicative)	Generic Drug (Average Price, Indicative)
Hypertension (Enalapril)	100% – 1,000,000 UZS, 84 tablets (Vasotec)	40–60% – 20,000–30,000 UZS, 84 tablets (Radiks)
Diabetes Mellitus (Metformin)	100% – 100,000–150,000 UZS, 500 mg, 100 tablets (Merc)	50–70% – 40,000–80,000 UZS, 500 mg, 60 tablets (Radiks)
Peptic Ulcer Disease (Omeprazole)	100% – 50,000–90,000 UZS, 20 mg	35–60% – 20,000–30,000 UZS, 20 mg
Ischemic Heart Disease (Atorvastatin)	100% – 150,000–200,000 UZS, 40 mg	40–65% – 80,000–120,000 UZS, 40 mg

### International Experience

According to available data, countries with a high level of generic medicine utilization experience more stable growth in pharmaceutical expenditures compared to countries where original (brand-name) drugs dominate.

It is emphasized that generic medicines undergo a strict registration procedure, including proof of bioequivalence, assessment of substance quality, and compliance with GMP standards. This confirms their therapeutic equivalence to original drugs.

### 4. Significance for the Republic of Uzbekistan

For the Republic of Uzbekistan, the development of local production of generic medicines holds strategic importance. The economic benefits include:

Reducing dependence on imported medicines

Decreasing foreign currency expenditures

Creating employment opportunities

Enhancing the country's pharmaceutical security



Expanding the share of domestically produced generics in government procurement of medicines allows for the optimization of the healthcare budget and improves access to therapy for socially vulnerable population groups.

### **5. Discussion of Results**

The analysis shows that the pharmacoeconomic efficiency of generic medicines is supported by both international experience and national practice. With strict quality control and adherence to GMP standards, generics serve as a full and reliable alternative to original (brand-name) drugs.

Thus, the introduction of generic medicines contributes to optimizing budget expenditures and increasing access to treatment.

In the context of the Republic of Uzbekistan, the development of local generic drug production strengthens pharmaceutical security, reduces dependence on imports, and promotes economic growth.

### **Conclusions.**

1. Generic medicines are an economically effective tool for optimizing expenditures.
2. Confirmation of bioequivalence ensures therapeutic equivalence to original drugs.
3. The development of domestic production of generics is a strategically important direction for the Republic of Uzbekistan.

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