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THE MARKET SHARE OF DRUGS USED IN THE TREATMENT OF OVARIAN CANCER IN THE PHARMACEUTICAL SECTOR OF UZBEKISTAN

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ABSTRACT

This article analyzes data on anticancer drugs registered in the Republic of Uzbekistan and supplied by wholesale pharmaceutical enterprises. The analysis is based on official sources, including the State Register of Medicines, Medical Devices, and Medical Equipment authorized for use in medical practice in the Republic of Uzbekistan, and DRUG AUDIT data. The article synthesizes information on medicinal products used in the treatment of patients with cancer. The results obtained serve as a basis for optimizing the timely supply of drugs to patients and streamlining their delivery to hospitals.

The number of anticancer drugs used for ovarian cancer in the "List of Essential Medicines," approved by the order of the Ministry of Health of the Republic of Uzbekistan on August 21, 2023, was studied. Analysis of the registration of anticancer drugs used to treat ovarian cancer in the pharmaceutical market of the Republic of Uzbekistan indicates that the development and introduction into production of highly effective, local medicinal products for ovarian cancer treatment is currently both highly relevant and promising.

Relevance of the Study

Since the early years of independence, the Republic of Uzbekistan has prioritized the enhancement of public health and social protection systems. This transformation entails not only aligning medical institutions with international standards but also advancing the pharmaceutical industry as a strategic sector to ensure the population's access to high-quality medicinal products. A significant milestone in this direction is the Presidential Resolution of the Republic of Uzbekistan No. 402, adopted on November 25, 2024, titled "On Measures to Improve the System of Controlling Oncological Diseases among Women for

2025–2030." The primary objective of this resolution is to modernize the infrastructure for the early detection and treatment of oncological malignancies. It mandates critical tasks, including the systematic organization of screening programs, the large-scale implementation of advanced diagnostic methodologies, the strategic coordination of oncological services, and the continuous professional development of medical specialists [1].

Ovarian tumors, both benign and malignant, can develop at any age but are most frequently observed in women aged 40–50 years. In terms of incidence, these tumors rank second among malignancies of the female reproductive system, with benign forms accounting for the majority (75–80%) of cases. The detection of malignant ovarian tumors remains one of the most pressing challenges in oncology. Its urgency is underscored by a steady increase in morbidity and mortality rates observed globally over the last few decades.

A significant clinical concern is that the vast majority of patients (75–87%) seek medical attention only at the advanced stages of the disease, resulting in a 10-year survival rate of no more than 10%. Approximately 10% of ovarian cancer cases are linked to specific hereditary syndromes, the most prevalent being the hereditary breast and ovarian cancer syndrome associated with BRCA gene mutations [2].

Diagnosis is typically confirmed at stages III–IV, after extensive peritoneal dissemination of the tumor, which significantly limits the efficacy of surgical intervention and chemotherapy. Metastatic progression remains a primary cause of mortality among these patients [3].

Globally, ovarian cancer remains a highly prevalent oncological condition, with approximately 314,000 new cases and 207,000 deaths recorded annually. It ranks seventh in incidence and eighth in mortality among cancers in women worldwide. The low survival rates and high recurrence levels are primarily attributed to the asymptomatic nature of the disease in its early stages, the lack of reliable diagnostic markers, and the challenges of therapeutic resistance. Ovarian cancer is an etiologically and clinically heterogeneous disease. Carcinogenesis is driven by genetic cellular damage (mutations), which increases cellular susceptibility to exogenous and endogenous carcinogenic factors, such as the mumps virus, asbestos exposure, hormonal imbalances, and immunodeficiency [4].

Current data indicates that the 5-year survival rate for ovarian cancer patients is 46.5%. Notably, 45% of cases and 65% of deaths occur in women over the age of 65. In 75% of newly diagnosed cases, the disease is already at stage III or IV [5].

In response to these challenges, the leadership of the Republic of Uzbekistan has placed a strategic emphasis on the further development of the pharmaceutical sector to ensure the provision of high-quality, effective, and safe medications. Improving the drug supply chain for healthcare facilities, ensuring the efficient utilization of budget allocations for pharmaceutical procurement, and enhancing the quality of inpatient care remain critical priorities for the national healthcare system [6].

Aim of the Study. The aim of this study is to examine the registration indicators, perform a comparative analysis of the assortment, and analyze the market share of anticancer drugs used in the treatment of ovarian cancer within the pharmaceutical sector of Uzbekistan.

Materials and Methods. The study employed content analysis, grouping, comparative analysis, and statistical analysis methods. These methods were applied to evaluate regulatory data and market dynamics.

Results and Discussion. The "List of Essential Medicines" was approved in accordance with the order of the Ministry of Health of the Republic of Uzbekistan dated August 21, 2023. Table 1 presents the anticancer drugs used for ovarian cancer treatment, categorized by their International Nonproprietary Names (INN), that are included in this list [7].

Table 1
Anticancer drugs for ovarian cancer treatment included in the List of Essential Medicines (2023)

№	INN	Dosage form
1.	Oxaliplatin	Lyophilized powder for concentrate for solution for infusion 50 mg, 100 mg (vial)
		Concentrate for solution for infusion 5 mg/ml: 50 mg/10 ml, 100 mg/20 ml, 200 mg/40 ml (vial)
2.	Cisplatin	Concentrate for solution for injection 1 mg/ml: 10 mg/10 ml, 20 mg/20 ml, 50 mg/50 ml, 100 mg/100 ml (vial)
		Solution for infusion for intravenous administration 10 mg/10 ml, 50 mg/50 ml (vial)
3.	Capecitabine	Tablets 150 mg, 300 mg, 500 mg
4.	Gemcitabine	Concentrate for solution for infusion 100 mg/ml: 200 mg/2 ml, 1000 mg/10 ml (vial)
		Lyophilized powder for solution for infusion 200 mg, 1000 mg (vial)
5.	Pemetrexed	Lyophilizate for solution for injection 100 mg/4 ml, 500 mg/20 ml, 1000 mg/40 ml (vial)
6.	Doxorubicin hydrochloride	Concentrate for solution for infusion 2 mg/ml: 10 mg/5 ml, 50 mg/25 ml, 200 mg/100 ml (vial)
		Lyophilized powder for solution for intravenous and intravesical administration 10 mg, 50 mg (vial)
7.	Irinotecan	Concentrate for solution for infusion 20 mg/ml: 40 mg/2 ml, 100 mg/5 ml, 300 mg/15 ml, 500 mg/25 ml (vial)
8.	Docetaxel	Concentrate for solution for infusion 20 mg/ml: 20 mg/1 ml, 80 mg/4 ml, 160 mg/8 ml (vial)

		Solution for injection 20 mg/0.5 ml, 80 mg/2.0 ml, 120 mg/3.0 ml (vial)
9.	Etoposide	Concentrate for solution for infusion 20 mg/ml: 50 mg/2.5 ml, 100 mg/5 ml, 200 mg/10 ml, 400 mg/20 ml (vial)
10.	Vinorelbine	Concentrate for solution for infusion 10 mg/ml: 10 mg/1 ml, 50 mg/5 ml (vial)
11.	Paclitaxel	Concentrate for solution for infusion 6 mg/ml: 30 mg/5 ml, 100 mg/16.7 ml, 300 mg/50 ml (vial) Solution for injection 30 mg/5 ml, 100 mg/16.7 ml, 260 mg/43.34 ml, 300 mg/50 ml (vial)
12.	Tamoxifen	Tablets 10 mg Tablets 20 mg
13.	Letrozole	Tablets 2,5 mg
14.	Carboplatin	Concentrate for solution for infusion 10 mg/ml: 50 mg/5 ml, 150 mg/15 ml, 450 mg/45 ml, 600 mg/60 ml (vial) Lyophilized powder for solution for injection 150 mg (vial)
15.	Bevacizumab	Concentrate for solution for injection 25 mg/ml: 100 mg/4 ml, 400 mg/16 ml (vial)

In the subsequent phase of our study, we conducted a comparative assortment analysis of anticancer drugs authorized for medical use in the Republic of Uzbekistan. This analysis utilized data from the State Registers of Medicines, Medical Devices, and Medical Equipment: Issue No. 25 (2021), No. 26 (2022), No. 27 (2023), No. 28 (2024), and No. 29 (2025).

The research focused on the registration rates of these drugs based on both their International Nonproprietary Names (INN) and trade names, employing rigorous statistical analysis methods. A comprehensive evaluation of anticancer drugs was performed, categorized by the country of origin (Table 2).

Table 2

Comparative analysis of anticancer drug registrations in the State Register of the Republic of Uzbekistan (2021–2025)

Years	Uzbekistan		CIS countries		Foreign countries		Total
	Count	%	Count	%	Count	%	Count
2021	12	5.2	30	13.0	190	81.8	232
2022	12	5.1	30	12.6	196	82.3	238
2023	19	7.8	33	13.6	192	78.6	244
2024	18	8.2	29	13.0	175	78.8	222

2025	24	12.2	26	13.2	147	74.6	197

The results indicate a notable shift in the pharmaceutical market dynamics between 2021 and 2025. Specifically, the share of registered anticancer drugs imported from foreign countries decreased from 81.8% to 74.5%. Conversely, the share of locally manufactured anticancer drugs significantly increased from 5.2% to 12.2%. This trend underscores the growing capacity of the domestic pharmaceutical industry and the successful implementation of policies aimed at increasing the local production and registration of oncological therapeutics. Following this trend, a geographical distribution analysis of manufacturing countries was performed. The detailed findings regarding the origin of registered anticancer drugs are presented in Table 3.

Table 3

Registration analysis of anticancer drugs by manufacturing country

Manufacturing Country	***Registered anticancer drugs***				
	Count 2021 y	**Count 2022 y**	**Count 2023 y**	**Count 2024 y**	**Count 2025 y**
Austria	14	13	9	9	11
Australia	1	1	-	-	1
Bangladesh	13	16	16	17	15
Belgium	-	-	1	1	1
United Kingdom	14	17	17	17	17
Germany	17	17	23	25	26
India	90	90	83	59	30
Iran	-	-	1	1	1
Spain	1	1	3	6	8
China	-	-	-	5	7
Korea	1	1	1	1	1
Netherlands	-	-	1	1	1
Romania	2	2	2	1	2
Slovenia	2	2	3	2	3
USA	1	2	1	2	2
Turkey	10	10	8	9	9

France	2	2	2	1	3
Switzerland	9	9	11	12	8
Sweden	1	1	1	1	1
Poland	1	1	-	-	-
Argentina	6	6	5	4	-
Italy	3	3	3		-
Cyprus	1	1	1	1	-
KHP	1	1	-	-	-
Kazakhstan	6	6	3	3	4
Russia	14	14	20	15	12
Belarus	10	10	9	10	9
Ukraine	-	-	1	1	1
Uzbekistan	12	12	19	18	24
Total	***232***	***238***	***244***	***222***	***197***

Based on the geographical analysis, anticancer drugs registered in Uzbekistan are produced by pharmaceutical companies from various countries. In recent years, the highest number of registrations has been recorded for drugs manufactured in India, Germany, the United Kingdom, Bangladesh, Austria, Russia, and Belarus.

In the following phase of the research, an evaluation of registered anticancer drugs was conducted based on their dosage forms. The findings revealed that a significant majority of these drugs are registered as concentrates for solution for infusion, solutions for injection, and tablets. The detailed results of this dosage form analysis for the period 2021–2025 are presented in Table 4.

Table 4

Analysis of registered anticancer drugs by dosage form (2021–2025)

Dosage form	***Number of registered dosage forms***				
	2021 y	**2022 y**	**2023 y**	**2024 y**	**2025 y**
Foreign					
Implant	2	2	2	2	-
Capsules	14	15	14	12	12

Concentrate	57	59	68	59	51
Lyophilizate	17	19	15	16	15
Powder	28	26	24	22	16
Solution	22	23	21	18	17
Tablets	50	52	48	46	36
CIS countries					
Capsules	1	1	1	-	-
Concentrate	9	9	12	11	11
Lyophilizate	6	6	5	3	2
Powder	4	4	5	6	5
Solution	2	2	3	1	1
Tablets	8	8	7	8	7
Local					
Capsules	4	4	7	7	6
Tablets	8	8	8	7	10
Concentrate	-	-	2	2	2
Lyophilizate	-	-	2	2	2
Solution	-	-	-	-	4
Total	232	238	244	222	197

In 2025, there was a notable registration of domestic anticancer drugs in advanced formulations, such as concentrates for solution for infusion, lyophilizates, and solutions for injection.

The subsequent part of the study focused on analyzing the market share of anticancer drugs in Uzbekistan from 2020 to 2024, based on DRUG AUDIT data. The results indicate that the majority of the pharmaceutical market for anticancer products is dominated by foreign imports, with their overall market share showing steady year-over-year growth. In 2021, anticancer drugs produced by domestic pharmaceutical companies accounted for 1.4% of the total market (calculated in local currency). In 2022, the market share of anticancer drugs imported from CIS

countries was minimal, at 0.04%. Between 2023 and 2024, this figure decreased sharply, leaving the vast majority of the market to products from non-CIS foreign countries. The following diagram illustrates the market volume of anticancer drugs in the Uzbekistan pharmaceutical market by packaging units (volume share) for the period 2020–2024.

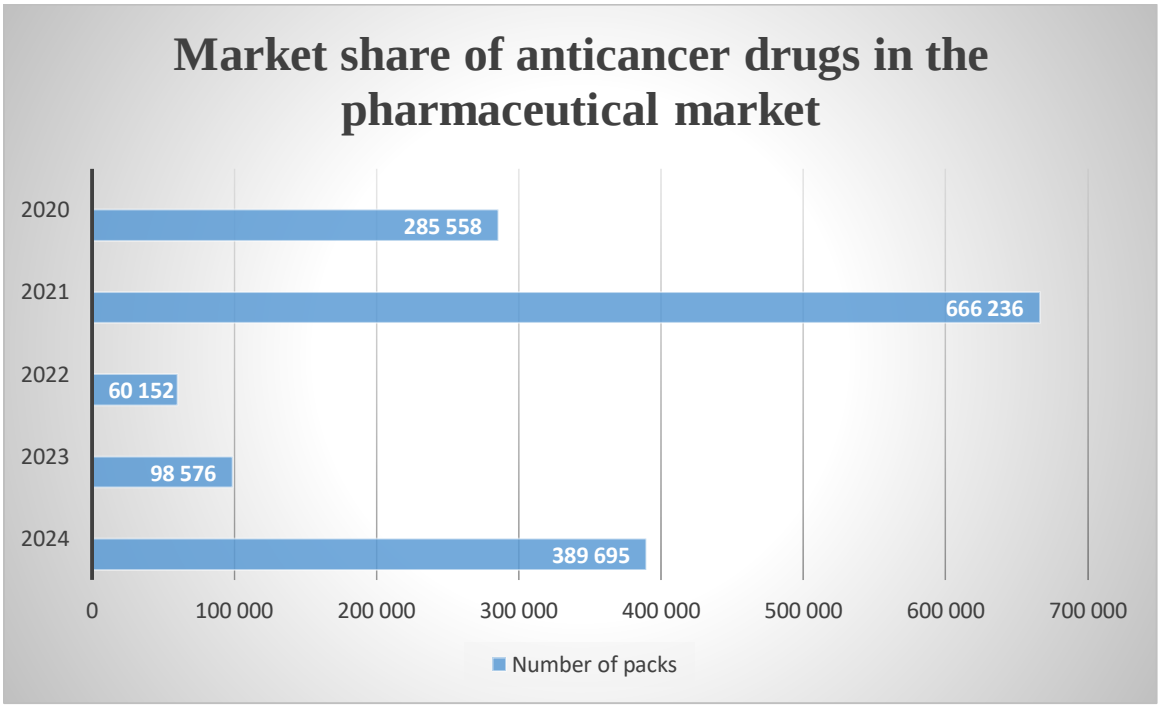
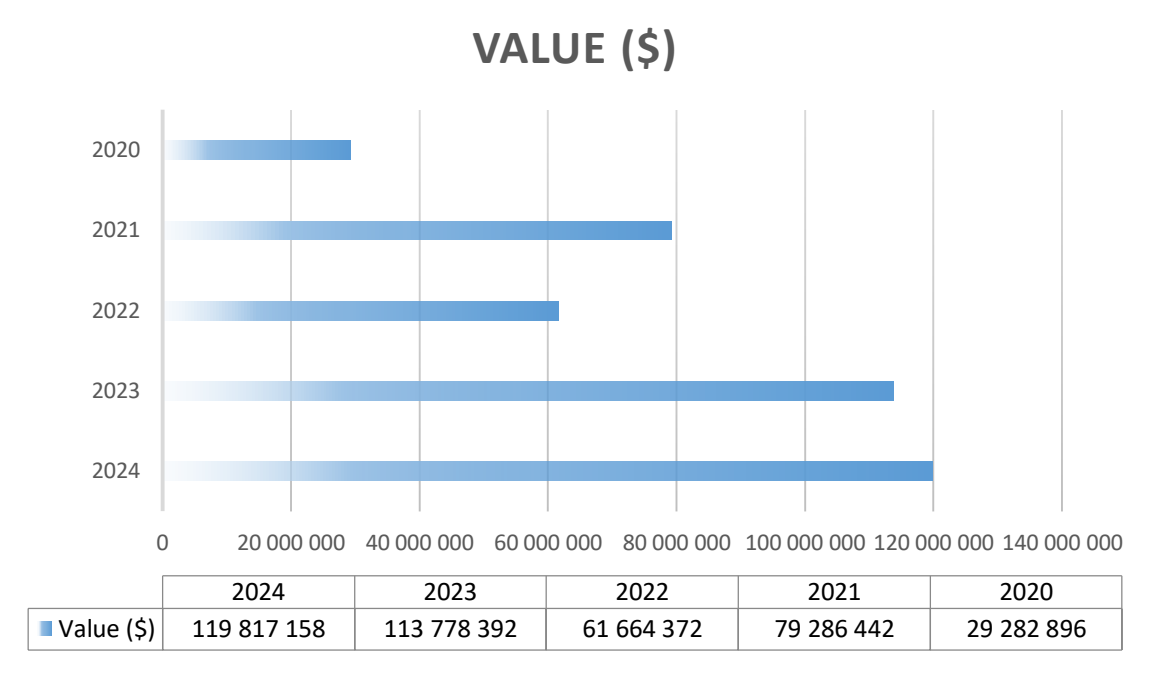


Figure 1. Market share of anticancer drugs in Uzbekistan by volume in packaging units (2020–2024).

The following diagram illustrates the market share of anticancer drugs in Uzbekistan in terms of value (USD) for the period 2020–2024.



	2024	2023	2022	2021	2020
Value ($)	119 817 158	113 778 392	61 664 372	79 286 442	29 282 896

Figure 2. Market share of anticancer drugs in the Uzbekistan pharmaceutical market by value (USD), 2020–2024

As demonstrated in Figures 1 and 2, the market share of anticancer drugs in Uzbekistan's pharmaceutical sector experienced a decline in 2022, both in terms of volume (packaging units) and value (USD). However, a consistent recovery and upward trend in market share were observed during the 2023–2024 period.

Conclusion. The analysis of the "List of Essential Medicines" approved by the Ministry of Health of the Republic of Uzbekistan in 2023 shows that 15 types of drugs used for ovarian cancer treatment are now included. The number of anticancer agents on this list is increasing annually. An analysis of the State Register for 2021–2025 revealed that the share of registered foreign anticancer drugs decreased from 81.8% to 74.5%. In contrast, the share of locally produced anticancer drugs increased from 5.2% to 12.2%. This confirms a rise in domestic manufacturing and registration. The most frequent foreign registrations come from India, Germany, the UK, Bangladesh, Austria, Russia, and Belarus.

A market share analysis of anticancer drugs in Uzbekistan, conducted using DRUG AUDIT data, reveals that the majority of these products are supplied by foreign countries. The findings show that the market share of anticancer drugs in the Uzbekistan pharmaceutical market has been increasing annually.

References:

1. O‘zbekiston Prezidenti Shavkat Mirziyoyevning PQ-402-sonli 25.11.2024 yilda qabul qilingan "2025-2030 Ayollar orasida onkologik kasalliklarni nazorat qilish tizimini takomillashtirish chora-tadbirlari to‘g‘risida " qarori.

2. "ТУХУМДОНЛАР САРАТОНИ" НОЗОЛОГИЯСИ БЎЙИЧА МИЛЛИЙ КЛИНИК ПРОТОКОЛ. Тошкент 2024 йил, 141 б.
3. Мустафин Р. Н., Хуснутдинова Э.К. Особенности метастазирования рака яичника // Креативная хирургия и онкология. – Уфа, Россия, Республика Башкортостан 2020. – № 4. – Том 10. – С. 319–329. – С. 321.
4. Nigora Zaripovna Babajanova., Yashnar Salievna Mamadalieva "ТУХУМДОН САРАТОНИ: ЭТИОПАТОГЕНЕЗ ВА ИММУНОГИСТОХИМИК МАРКЕРЛАР АСОСИДА ТУХУМДОН САРАТОНИНИ ЭРТА АНИҚЛАШ ВА ПРОГНОЗЛАШНИНГ ИЛМИЙ АСОСЛАРИ. (АДАБИЁТЛАРГА ШАРХ)" // EURASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES. – 2025. – С. 7–14. – С. 8-9.
5. А Н. Туромша., А Э. Протасова., Г А. Раскин., Е Д. Кравцова., А Л. Андреев., Л В. Страх., М Ю. Шеремет Рак яичников in situ: клинический случай // Опухоли женской репродуктивной системы. – Москва, Российская Федерация, 2024. – № 3. – Том 20. – С. 95–98. – С. 95.
6. Султонова Г.А., Мусаходжаева И.Н. Онкоурологик касалликларда кулланиладиган дори воситалардан окилона фойдаланиш // Фармацевтика журнали. – Тошкент, 2024. – № 6. 5–10-б.
7. O‘zbekiston Respublikasi Sog‘liqni saqlash vazirining 2023 yil 21 avgustdagi 34-sonli “Asosiy dori vositalari ro‘yxati”ni tasdiqlash to‘g‘risidagi buyrug‘i.
8. Rajabova N.X., Suyunov N.D. O’pka saratoni kasalligini davolashda qo’llaniladigan dori vositalarining assortiment taxlili // Farmatsevtika jurnali. - 2021. - № 4. - 5-17 b. (15.00.00.; №2).
9. Sultanova G., Usmanov U., & Musaxodjayeva I. (2024). ONKOLOGIK KASALLIKLARDA QO‘LLANILADIGAN DORI VOSITALARI BOZORINI O‘RGANISH. Евразийский журнал медицинских и естественных наук, 4(5 (Specaial Issue), 62–63.
10. Sarvarova D. M. et al. Study Of The Assortment Of Antioxidant And Hemostatic Medicines Registered In The Republic Of Uzbekistan //Journal of Pharmaceutical Negative Results. – 2023. – Т. 14.
11. Madatova N. A. MARKETING ANALYSIS OF THE MARKET FOR CARDIOTONIC DRUGS //Академические исследования в современной науке. – 2025. – Т. 4. – №. 25. – С. 59-60.