

Content analysis of anticancer drugs of the pharmaceutical market of the republic of Uzbekistan

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Abstract. In the article, the analysis of anticancer drugs and medical products and drug forms was carried out. The results of the distribution of the dynamics of penetration of anticancer drugs into the pharmaceutical market by producing countries are presented. From this article, we can conclude that the production of anticancer drugs has increased in the Republic of Uzbekistan in recent years, the number of drugs imported from abroad and the Commonwealth of Independent States has also increased.

1 Introduction

Anticancer drugs are widely used in medical practice. These drugs form the "core" of modern anticancer group pharmacotherapy. At present, along with the development of science, technology and the chemical industry, various synthetic drugs belonging to various groups have begun to enter the medical field of many countries. Such drugs, in addition to normalizing the pathological process in the body, in some cases, due to excessive use or accumulation in the body, can lead to severe poisoning.

In the fourth direction of the Decree of the President of the Republic of Uzbekistan dated February 7, 2017 "On the Action Strategy for the Further Development of the Republic of Uzbekistan" No. P-1947, important tasks are to "further develop the pharmaceutical industry, improve the provision of the population and medical institutions with affordable, high-quality medicines.

Decrees of the President of the Republic of Uzbekistan dated February 14, 2018 No. P-2000 and No. P-2001 of the Parliament of the Republic of Uzbekistan, in full extent, to implement the tasks defined in Decrees No. 348 and other legal documents related to this activity. [2,3,4]. To date, some scientists have analyzed the range of drugs for cardiovascular diseases, antidepressants, antibiotics and other groups on the pharmaceutical market [6, 7, 8, 9].

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2 Purpose of the study

Analysis of the role of these drugs in the pharmaceutical market of Uzbekistan, taking into account the toxicological significance of drugs belonging to the group of antitumor drugs that make up a certain part of the pharmaceutical market of the Republic of Uzbekistan.

3 Research methods

Methods of content analysis, comparative analysis of medicines.

4 Research results and discussion

To analyze the range of anticancer drugs in the pharmaceutical market of the Republic of Uzbekistan, data from the State Register of Medicines and Medical Devices were used [5].

An analysis of anticancer drugs produced by the Republic of Uzbekistan, the Commonwealth of Independent States and foreign countries was carried out. According to the data of the State Register of Medicines and Medical Products No. 26 of 2022, a total of 244 trade names of anticancer drugs are used in Uzbekistan. It was found that 204 (83.6%) drugs in the assortment correspond to foreign manufacturers, 28 (11.5%) CIS manufacturers and 12 (4.9%) to domestic manufacturers (Fig. 1).

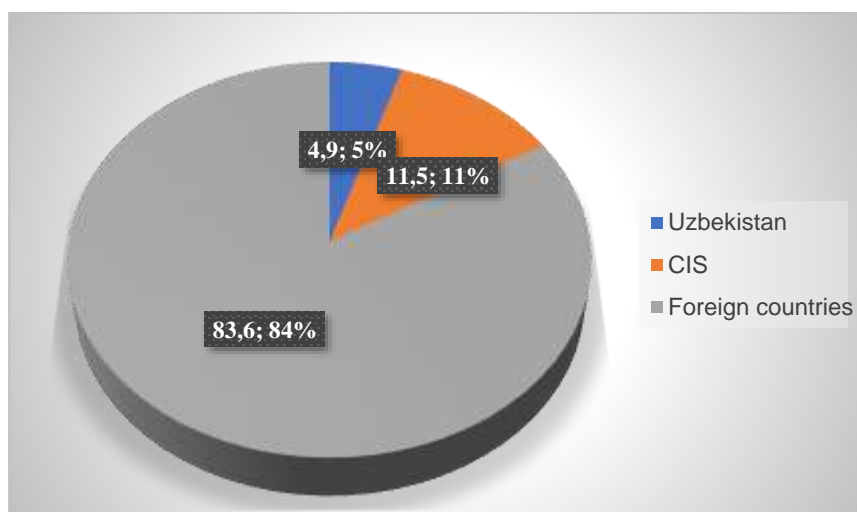


Fig. 1. The share of anticancer drugs in the pharmaceutical market of Uzbekistan

According to the results of the analysis, the State Register of Medicines and Medical Products of the Republic of Uzbekistan has 171 items in number 22 of 2018, number 23 of 2019- 175, number 24 of 2020-178, number 25 of 2021-202 and number 2022 of year 2022. In 26 issues- 244 anticancer drugs are listed. (Fig. 1).

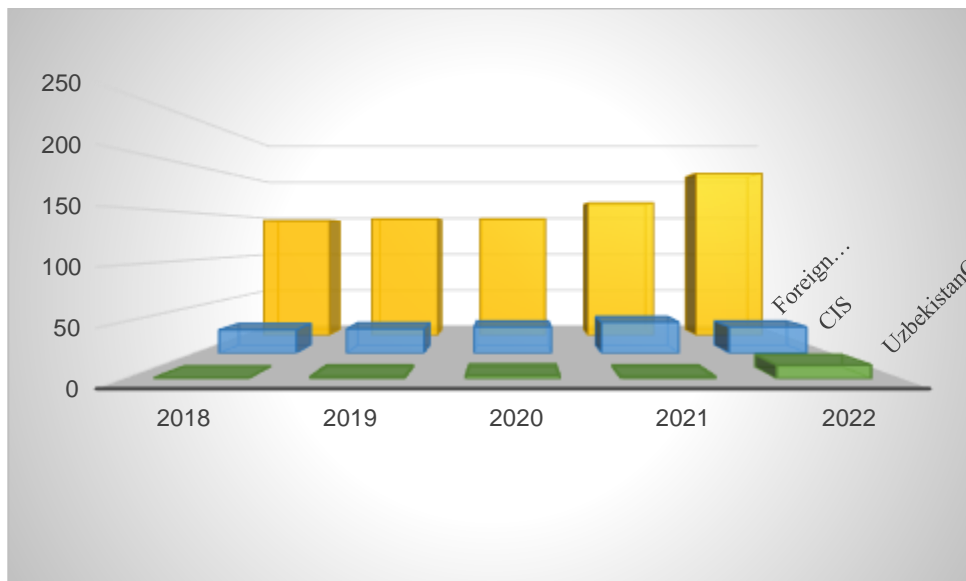


Fig. 2. Dynamics of entry of anticancer drugs into the pharmaceutical market of the Republic of Uzbekistan.

We can see that the share of domestic manufacturers of anticancer drugs in the pharmaceutical market has been increasing every year, and the number of those registered from the CIS and foreign countries has also increased (Tabl. 1).

Table 1. Analysis of the dynamics of arrival of anticancer drugs by countries

Years	Uzbekistan		CIS		Foreign countries		overall amount
	amount	%	amount	%	amount	%	
2018	1	0,04	25	1,4	145	3,25	171
2019	2	0,08	26	1,4	147	3,15	175
2020	3	0,1	28	1,5	147	3,0	178
2021	2	0,06	33	1,8	167	3,13	202
2022	12	0,4	28	1,5	204	3,41	244

The next step in our research was the distribution of cancer drugs among countries. Information about them is presented in Table 2.

Table 2. Analysis of anticancer drugs registered in the Republic of Uzbekistan by producing countries

The name of the producing country	The number of manufactured drugs										
	%		I Z	%		I Z	%		I Z	%	
	2018 y	2019 y	2020 y	2021 y	2022 y	2018 y	2019 y	2020 y	2021 y	2022 y	
Australia	1	0.6	1	0.57	0	0	1	0.5	1	0.4	
Austria	17	9.9	16	9.14	15	8.42	15	7.42	12	4.9	
Bangladesh	0	0	0	0	0	0	2	1.0	16	6.55	
Great Britain	0	0	0	0	0	0	4	2.0	17	6.96	
Germany	21	12.3	19	10.8	16	8.98	20	9.90	21	8.6	
India	67	39.2	68	38.8	77	43.2	85	42	92	37.7	
Spain	3	1.75	3	1.71	3	1.68	1	0.5	2	0.81	
Italy	1	0.6	2	1.14	2	1.12	3	1.48	3	1.23	
Cyprus	1	0.6	1	0.57	1	0.56	1	0.5	1	0.4	
China	1	0.6	1	0.57	1	0.56	0	0	1	0.4	

Continuated of Table 2.

PRC	1	0.6	1	0.57	1	0.56	1	0.5	1	0.4
Korea	0	0	1	0.57	1	0.56	1	0.5	1	0.4
Latvia	1	0.6	1	0.57	1	0.56	1	0.5	0	0
Mexico	1	0.6	1	0.57	1	0.56	1	0.5	0	0
Netherlands	1	0.6	1	0.57	0	0	0	0	0	0
Paraguay	4	2.34	4	2.28	1	0.56	1	0.5	0	0
Poland	0	0	1	0.57	1	0.56	1	0.5	1	0.4
Romania	2	1.2	2	1.14	2	1.12	2	1.0	2	0.81
Slovenia	2	1.2	2	1.14	2	1.12	2	1.0	2	0.81
USA	4	2.34	2	1.14	1	0.56	2	1.0	2	0.81
Turkey	6	3.50	9	5.14	9	5.05	10	4.95	10	4.09
France	1	0.6	1	0.57	2	1.12	2	1.0	2	0.81
Switzerland	7	4.9	6	3.42	7	3.93	6	3.0	10	4.09
Sweden	0	0	0	0	0	0	0	0	1	0.4
Russia	12	7.01	10	5.71	12	6.74	16	7.92	14	5.73
Ukraine	1	0.6	1	0.57	1	0.56	1	0.5	0	0
Belarus	9	5.26	9	5.14	9	5.05	10	4.95	8	3.27
Kozogiston	3	1.75	6	3.42	6	3.37	6	3.0	6	2.45
Uzbekistan	1	0.6	2	1.14	3	1.68	2	1.0	12	4.9

The results of the analysis revealed that a greater share of these preparations are produced by pharmaceutical companies and firms in countries such as Germany, Ukraine, Slovenia, Russia, India, as well as the Republic of Uzbekistan.

Table 3. 5-year analysis of anticancer drugs by dosage form

№	Drug forms	Tablet	Capsule	Injection	Spray	Implant	Total
1	2018	41	10	119	1	0	171
2	2019	47	11	116	1	0	175
3	2020	39	11	127	1	0	178
4	2021	48	11	140	1	2	202
5	2022	72	21	149	0	2	244
Total		247	64	651	4	4	970

Based on the results of the 2022 analysis of anticancer drugs by their dosage form, it was found that 67.1% of them are in the form of injection, followed by the tablet dosage form of 25.5%, then the capsule dosage form of 6.6% and the lowest share for nasal spray the intended spray form was 0.4% and 0.4% implant. (Table 3, Figure 3).

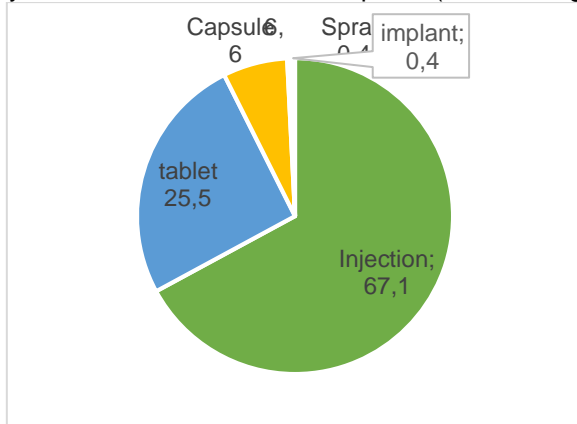


Fig. 3. General analysis of anticancer drugs 2022 by dosage form share

According to the results of the cursory analysis in 2022, injectable drugs accounted for 61.5%, tablets for 29.4%, capsules for 8.5%, and implants for 0.7% (Figure 4).

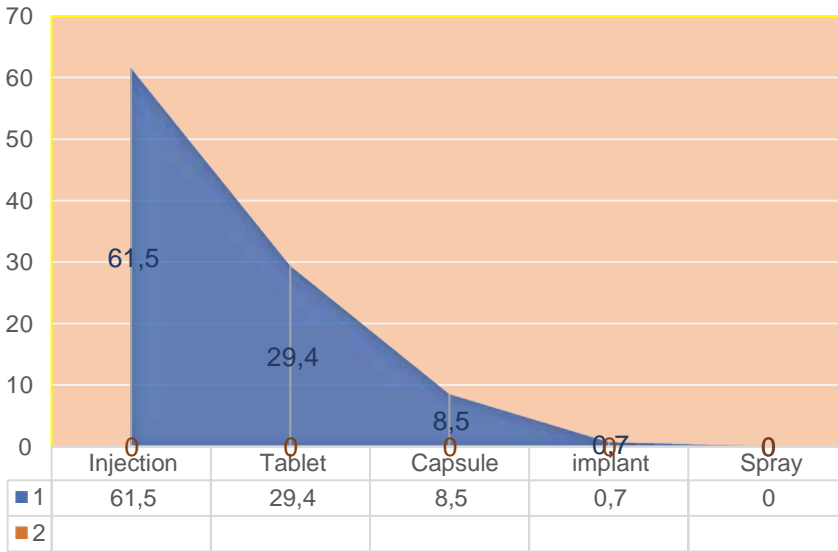


Fig. 4. Analysis of anticancer drugs in 2022 by the share of drug forms

5 Conclusion

As it can be seen from the results, the drug form of anticancer drugs produced in foreign countries is leading both in terms of type and number. At present, a large part of the registered anticancer drugs are drugs produced in foreign countries.

Based on these data, we can conclude that since 2018, the number and form of anticancer drugs produced by local manufacturers has increased, and the share of drugs imported from foreign countries and CIS countries has also increased significantly. Currently, 99% of state registered anticancer drugs are imported from foreign countries and CIS countries.

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