

Analysis Of Soft And Transdermal Medicines Of The Pharmaceutical Market Of The Republic Of Uzbekistan

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ABSTRACT

This paper presents the relevant aspects of marketing research on soft and transdermal drugs on the market of the Republic of Uzbekistan.

A structured content analysis of soft and transdermal drugs was carried out by comparing quantitative and qualitative characteristics according to the criteria: dosage form, pharmacotherapeutic group, origin, far-abroad countries, CIS countries, domestic.

Revealed a relatively greater number of registered drug forms ointments, suppositories. It is shown that antifungal agents of domestic producers 7.8%, CIS countries –9.4%, foreign manufacturers 9.8% prevail on the market; antiseptic - domestic - 16.3%, CIS - 7.6%, foreign - 3.2%; anti-inflammatory domestic production is 19.2%, CIS-11.17%, foreign 32.8%.

A not small list of pharmacotherapeutic groups of ointments is known due to poor absorption, old technologies lose their relevance. Gels have replaced, and what is relevant for the development and introduction into domestic production of new or well-known drugs in the form of gels.

In the territory of the republic, gels are mainly registered and used abroad (36%), when domestic manufacturers produce only 5% of the soft drugs produced. Gels are of particular interest because of their structural, mechanical, and physical properties.

It should also be noted that some pharmaceutical groups, such as immunosuppressants, drugs for the treatment of eryctile dysfunction, hepatoprotectors, androgens and its synthetic analogues, drugs that promote normal scarring, corticosteroids account for a small% and are registered only by foreign manufacturers, and then in a small amount i.e. not registered in the CIS countries and domestic manufacturers.

The results indicate the feasibility of further research to assess the prospects of creating and introducing new topical drugs, in the form of soft drugs (gels, suppositories), new and a combination of those already produced by domestic manufacturers.

KEYWORDS: *content analysis, soft dosage forms, transdermal drugs.*

1. INTRODUCTION

Soft and transdermal drugs are of interest among other forms of administration, combine the favorable features inherent in both oral and parenteral dosage forms. Of

particular interest are rectal drugs, according to the intensity of absorption, and the speed of the onset of the therapeutic effect, the accuracy of dosing. (3.4). Due to its positive qualities, rectal dosage forms are widely used in almost all areas of clinical medicine, especially in modern pediatrics and geriatrics. Of particular interest are gels as a modern, more affordable absorption rate relative to ointments. (5.6)

Recently, the list of rectal dosage forms has been significantly expanded. Along with traditional suppositories, rectal ointments, gels, aerosols, capsules, microclysters, soaps are spreading. Children's dosage forms of rectal administration can be made in the form of suppositories, foam aerosols, rectal ointments, etc. (7)

The purpose of this study is to conduct content analysis of soft and transdermal drugs presented on the pharmaceutical market of the Republic of Uzbekistan.

2. MATERIALS AND METHODS

The object of research is the nomenclature of soft and transdermal drugs presented in the State Register of Medicines of the Republic of Uzbekistan.

In conducting the content analysis, as an object of study, we took into account data on the registration of drugs based on the materials ‘ ‘ of the State Register of Medicines and Medical Devices ’ ’ for the period of 2019. The data of ‘ ‘ Handbook of Vidal ’ ’ Medicines in Uzbekistan, ‘ ‘ List of Essential Medicines ’ ’, etc. were also used (8.9)

Table 1. Distribution of soft drugs by manufacturing countries for 2019

№	Dosage Forms	Domestic manufacturers		Manufacturers of the CIS countries		Foreign manufacturers	
		Qty	%	Qty	%	Qty	%
1.	Soft dosage forms	141	5.29 %	213	11.74%	366	7.56%
2.	Other dosage forms	2522	94.71%	1601	88.26%	4470	92.44%

According to the data of 2019, soft dosage forms of domestic production account for 5.29% (Fig. 1) of the total number of dosage forms produced by domestic manufacturers. In the CIS countries this indicator is 11.74% (Fig. 2), while for foreign manufacturers this indicator is 7.56%. (Fig. 3)

Figure 1

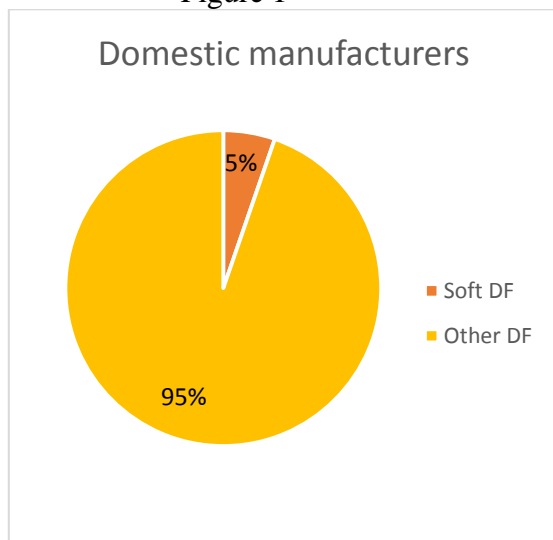


Figure 2

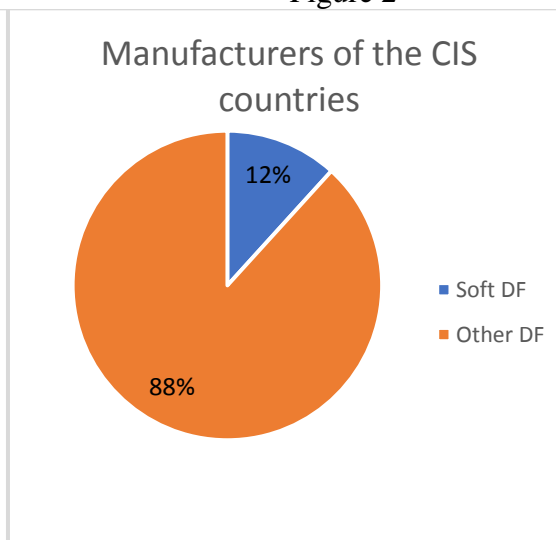
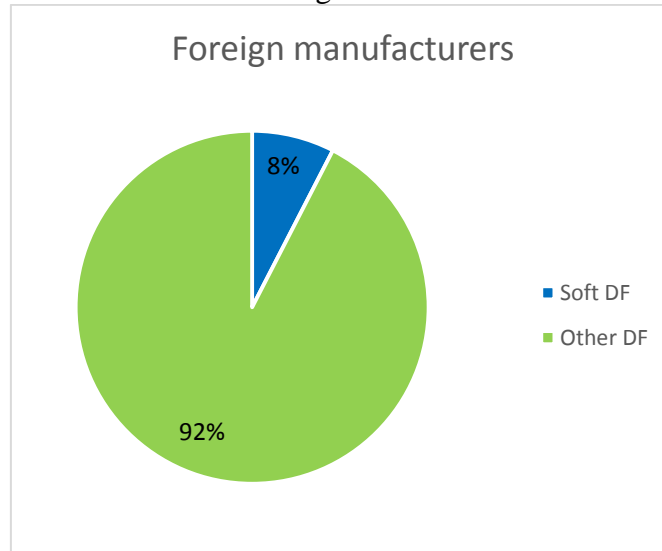
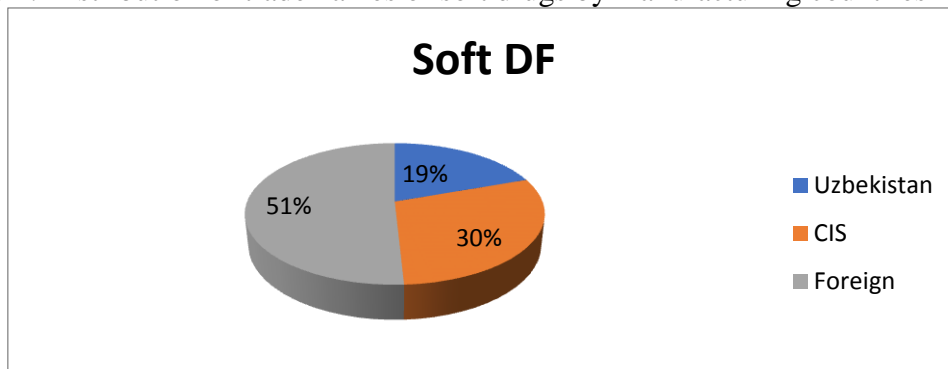


Figure 3



Currently, 720 trade names of soft drugs are registered in the Republic of Uzbekistan, taking into account various forms, dosages and packaging. The pharmaceutical market of the Republic of Uzbekistan is mainly dominated by soft drugs, imported (51%), the results are presented in Fig. 4

Figure 4. Distribution of trade names of soft drugs by manufacturing countries for 2019



From the presented in the analysis of the market of soft drugs, it was found that the main form of dosage forms for this group are ointments.

Table 2. Distribution of soft drugs depending on consistency, by manufacturing country for 2019

№	Soft drug forms	Domestic manufacturers		Manufacturers of the CIS countries		Foreign manufacturers	
		Qty	%	Qty	%	Qty	%
1.	Gels	7	4.97%	25	11.74%	132	36.06%
2.	Ointments	85	60.28%	76	35.68%	84	22.95%
3.	Suppositories	36	25.53%	84	39.44%	47	12.84%
4.	Paste	1	0.7%	2	0.93%	2	0.55%
5.	Liniment	8	5.68%	11	5.16%	0	0%
6.	Cream	4	2.84%	15	7.05%	101	27.6%

From table 2 it is seen that ointments of domestic production make up 60.28%, ointments made in the CIS countries make up 35.68%, and foreign production make up 22.95%. (tab. No. 2).

On average, ointments make up 40% of the soft dosage forms listed in the state register. Gels occupy a small% - domestic about 5%, CIS - 11.7%, foreign 36.06%.

Figures 5,6,7 show the prevalence by type of dosage form by country, which is confirmed by the data in table 2.

Figure 5

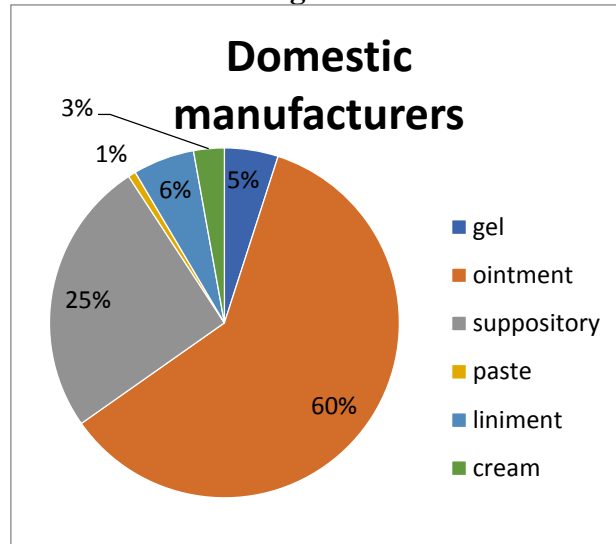


Figure 6

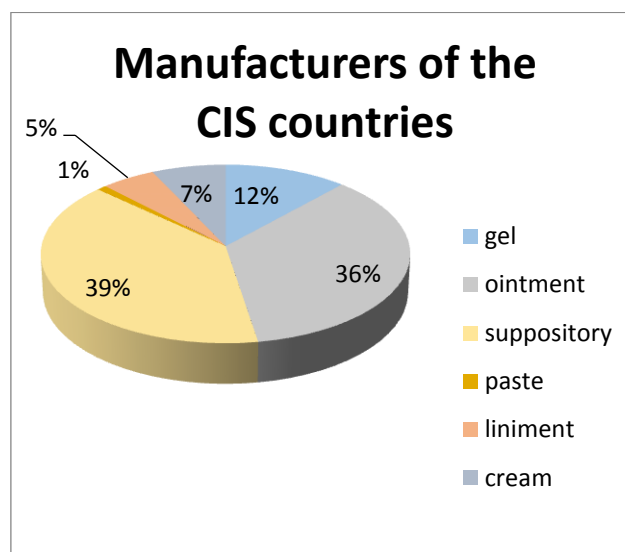
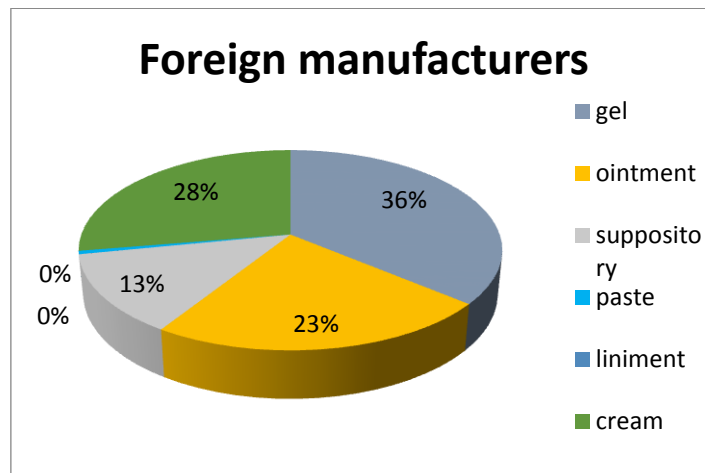


Figure 7



According to these diagrams, it is clear that a large percentage of the ointments and suppositories registered and used, administered and produced on the territory of the republic are. Currently, rectal suppositories predominate (58%), while gels are predominantly dominated by foreign production, where 36%, CIS countries -12%, and domestic production 5%.

In accordance with the State Register of Medicines, we conducted an analysis of the nomenclature of suppositories. (Tab. 3 and Fig. 8,9,10)

Table 3. Distribution of suppositories by structure, by country of manufacture for 2019

№	Suppositories	Domestic manufacturers		Manufacturers of the CIS countries		Foreign manufacturers	
		Qty	%	Qty	%	Qty	%
1.	Rectal	29	80.55%	47	55.96%	18	38.3%
2.	Vaginal	7	19.45%	31	36.9%	24	51.06%
3.	Both rectally and vaginally	0	0%	6	7.14%	5	10.64%

Table 3 shows that domestic manufacturers 80.55%, manufacturers of the CIS countries 55.96%, foreign manufacturers 38.3% produce rectal suppositories from the total number of suppositories.

Figure 8



Figure 9

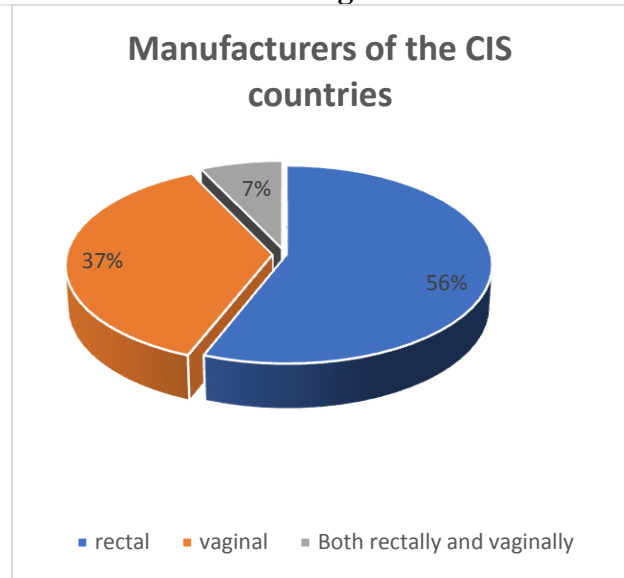
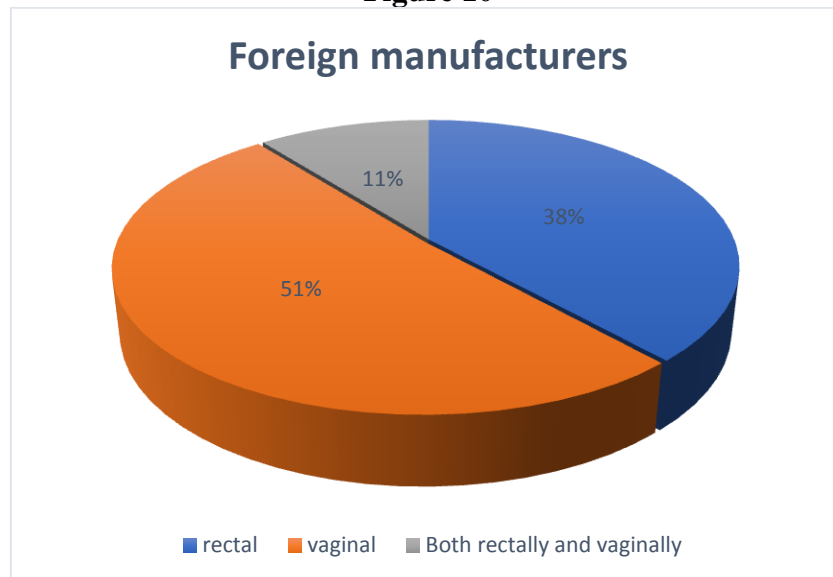


Figure 10



In table 4 and in fig. 11- a, b, c show prevalence in the market for pharmacotherapeutic groups.

Table 4. Distribution of soft dosage forms depending on the pharmacotherapeutic group, by manufacturing country for 2019

№	Pharmacotherapeutic group	Domestic manufacturers		Manufacturers of the CIS countries		Foreign manufacturers	
		Qty	%	Qty	%	Qty	%
1.	Dermatoprotector	8	5,67%	1	0,47%	1	0,27%
2.	Antiprotozoal	3	2,13%	3	1,41%	6	1,64%
3.	A remedy for the treatment	1	0,71%	5	2,35%	6	1,64%

	of chronic venous insufficiency						
4.	Antifungal agent	11	7,80%	20	9,39%	36	9,84%
5.	Antiseptic	23	16,31%	15	7,04%	3	0,82%
6.	Anti-inflammatory	27	19,15%	25	11,74%	120	32,79%
7.	Trophic and tissue stimulant and regeneration	7	4,96%	17	7,98%	12	3,28%
8.	Antibiotic	17	12,06%	17	7,98%	13	3,55%
9.	Glucocorticoid	5	3,55%	21	9,86%	10	2,73%
10.	Locally irritating	3	2,13%	6	2,82%	8	2,19%
11.	Antibacterial Synthetic	3	2,13%	3	1,41%	2	0,55%
12.	Drugs used in coloproctology	2	1,42%	8	3,76%	21	5,74%
13.	Laxative	7	4,96%	2	0,94%	1	0,27%
14.	Analgesic antipyretic	4	2,84%	6	2,82%	2	0,55%
15.	Antispasmodic	4	2,84%	5	2,35%	—	0,00%
16.	Anticoagulant	1	0,71%	6	2,82%	2	0,55%
17.	Antimicrobial	1	0,71%	4	1,88%	6	1,64%
18.	Antiviral agent	8	5,67%	19	8,92%	10	2,73%
20.	Anti-scab	6	4,26%	2	0,94%	—	0,00%
21.	Immunomodulating agent	—	—	10	4,69%	—	0,00%
22.	An agent used for diseases of the prostate			5	2,35%		
23.	Antiallergic					4	1,09%
24.	Drugs is mainly used in obstetrics and gynecology			5	2,35%	13	3,55%
25.	Enterosorbent			1	0,47%		
26.	Drugs used in dentistry			3	1,41%	12	3,27%
27.	Drugs used in ophthalmology			1	0,47%	5	1,36%
28.	Acne Treatment			1	0,47%	9	2,46%
29.	Glucocorticosteroid					20	5,46%
30.	Drugs used in dermatology and venereology					7	1,91%
31.	Local anesthetic					3	0,82%
32.	Progestin and its syntactic analysis					4	1,09%

33.	Muscle relaxant					3	0.82%
34.	Drugs for the treatment of psoriasis, vitilago					3	0.82%
35.	And other pharmaceutical therapy groups			2	0,94%	24	6.56%

The market is dominated by antifungal domestic 7.8%, CIS 9.39%, foreign manufacturers 9.8%; antiseptic domestic 16.31%, CIS 7%, foreign 0.82%; domestic antibiotics 12.06%, CIS-7.98%, foreign - 3.55%.

Figure 11

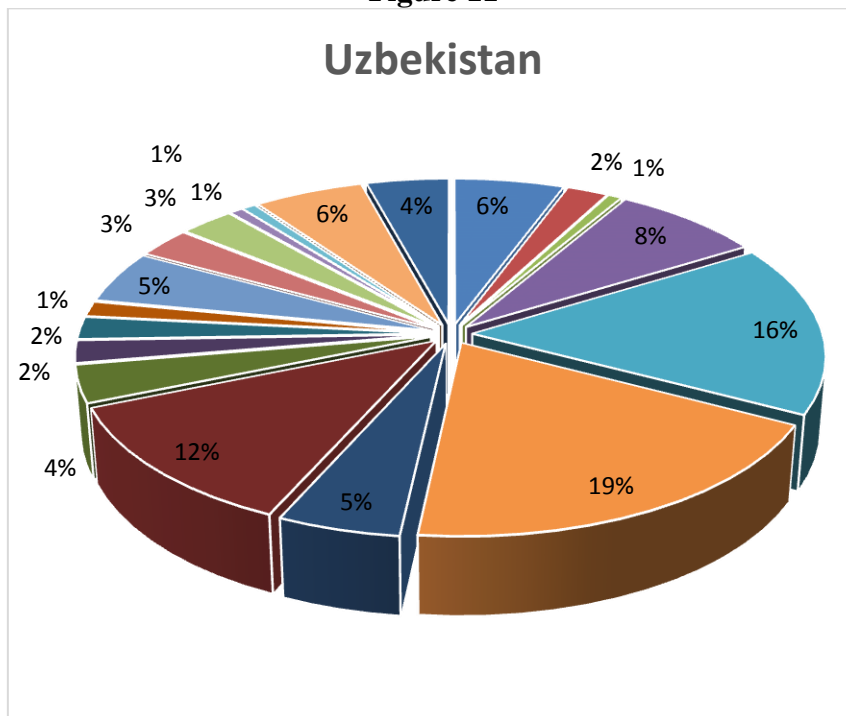


Figure 12

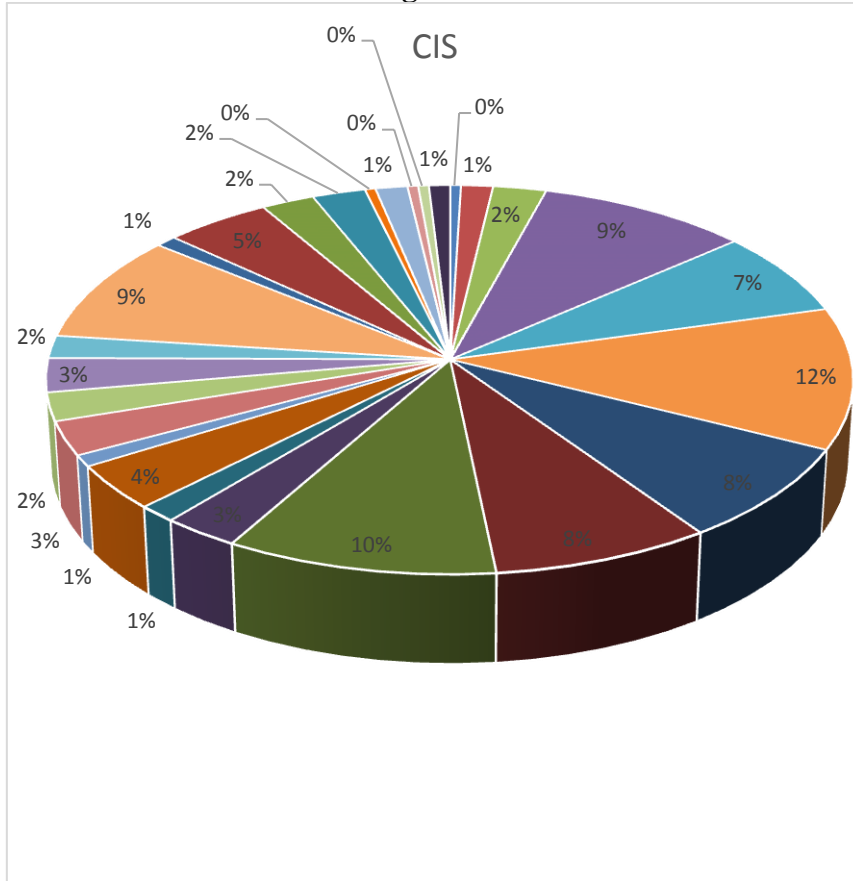
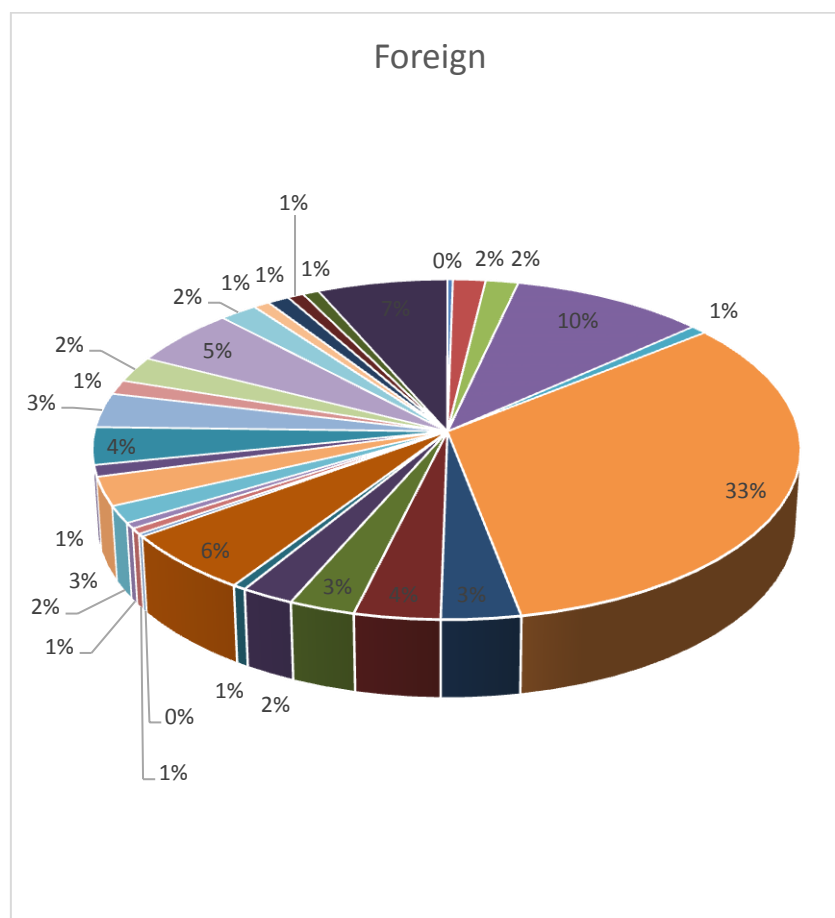


Figure 13



From the pharmacotherapeutic groups of soft drugs presented during the analysis, it was revealed that the main type of pharmacological action is anti-inflammatory action. The table shows anti-inflammatory soft drugs of domestic production make up 19.15%, CIS countries 11.74%, and anti-inflammatory drugs of foreign production make up 32.79% (tab. No. 4). On average, anti-inflammatory soft drugs make up 21.22% of the total number of soft drugs listed in the State Register.

It should also be noted that some pharmaceutical groups such as an immunosuppressant, drugs for the treatment of erythric dysfunction, hepatoprotectors, androgens and its synthetic analogues, drugs that promote normal scarring, potency correction drugs, anti-pediculosis drugs, corticosteroids, anti-flatulence drugs account for a small% and only foreign registered manufacturers and then in small quantities i.e. not registered in the CIS countries and domestic manufacturers.

3. CONCLUSION

A structured content analysis of soft and transdermal drugs was carried out by comparing quantitative and qualitative characteristics according to the criteria: dosage form, pharmacotherapeutic group, origin, non-CIS countries, CIS, domestic.

Revealed a relatively greater number of registered ointments, suppositories. It is shown that antifungal agents dominating in the market are 7.8%, CIS –9.4%, foreign manufacturers 9.8%; antiseptic - domestic - 16.3%, CIS - 7.6%, foreign - 3.2%; anti-inflammatory drugs of domestic production account for 19.2%, CIS-11.17%, foreign 32.8%.

Gels are of particular and promising interest. Compared to ointments, gels have a pH close to the pH of the skin, are quickly made, do not clog the pores of the skin, are quickly

distributed, and a fairly fast absorption rate. Currently, active studies of the properties of gel polymers are ongoing with the aim of introducing into the pharmaceutical practice a variety of soft gel dosage forms.

In the republic, gels are mainly registered and used mainly in foreign production (36%), when domestic producers produce only 5% of the soft dosage forms produced.

In fact, these dosage forms are of particular interest because of their structural, mechanical and physical properties.

It is known that not a small list of pharmacotherapeutic groups of ointments lost their relevance due to poor absorption, old technology. Gels have replaced, and what is relevant for the development and introduction into domestic production of new or well-known drugs in the form of gels. Scientists of the Republic of Tashkent Pharmaceutical Institute are conducting research on the development of non-steroidal anti-inflammatory gels, antiallergenic, antimicrobial and combined forms. Work is underway on the development of control methods and regulatory documents for implementation in domestic manufacturing pharmacy in order to obtain import-substitute drugs for the Republic of Uzbekistan.

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