



## **Analysis of the Range of Medicines used in the Treatment of Skin Diseases**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Author IKA designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors EVR and DV managed the analyses of the study. Authors AK, MMA and VVG managed the literature searches. All authors read and approved the final manuscript.*

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### **ABSTRACT**

The purpose of this article is to analyze the range of medicines that are used in the treatment of skin diseases. This topic is currently relevant, since the analysis of retail sales allows you to assess the financial condition of a pharmacy organization, identify unclaimed drugs, develop measures to stimulate sales, as well as study customer demand and develop a strategy for product movement. Accordingly, conducting a study of the main indicators of the assortment of this group of drugs will make it possible to expand their representation on the shelves of pharmacies, as well as to study the demand for them from potential consumers.

During the analysis, the following data were obtained. The range under study was represented in

the pharmacy by 22 items. The analysis of dosage forms of medicines intended for the treatment of skin diseases showed that liquid dosage forms accounted for 22.73%; solid dosage forms - 4.55%; soft dosage forms – 59.08%; gaseous dosage forms -13.64%. When analyzing the drugs, it was revealed that the largest number in the assortment is synthetic drugs - 68.18%; the share of phytopreparations was 31.82%. Analysis of the producing countries showed that most of the drugs presented to the pharmacy by domestic producers (54,53%), in the second place drugs manufactured in India -18,17%; third place was shared by countries: Poland, Croatia, Belgium, Germany, Czech Republic, USA -4,55%. The analysis of price categories of pharmaceuticals for the treatment of skin diseases revealed that in the price category from 100 to 200 RUB presents 22,73% of drugs; in the category from 200 to 300 rubles-49,89%; from 300 to 400 rubles from 33.73%; from 400 to 700 rubles - on 4,55%.

*Keywords: Medicines; skin diseases; assortment of medicines.*

## 1. INTRODUCTION

Drugs used for the treatment of skin diseases are in high steady demand in pharmacy organizations [1]. The reason for this is that the spread of these diseases is very dynamic due to the infectious nature of some of them, as well as due to the insufficiently unfavorable environmental background. As a result of the development of such diseases in a person since childhood, he is forced to use some drugs of this group constantly. For this reason, the availability of such medicines in pharmacies is a mandatory factor that allows improving the quality of life for those suffering from skin diseases [2,3,4]. In addition, the range of such medicines will allow patients to purchase a drug that is affordable for them at a price and quality. The purpose of the work is to analyze the range of medicines that are used in the treatment of skin diseases.

## 2. MATERIALS AND METHODS

The analysis was carried out on the materials of the pharmacy network "World of Medicines", which operates in Belgorod. In the process of writing the work, the calculation method, the graphical method, and the comparative method were used.

## 3. RESULTS

The main stage of studying the market of medicines is assortment analysis [5]. Table 1 shows the range of medicines used for the treatment of skin diseases available in the pharmacy.

As can be seen from Table 1, in the pharmacies of this network, this group of drugs is represented by 22 names.

Also, the structure of the analysis necessarily includes the study of medicinal forms of drugs [6]. We will analyze the dosage forms, medicines intended for the treatment of skin diseases (Table 2).

The analysis of dosage forms of medicines intended for the treatment of skin diseases showed that liquid dosage forms accounted for 22.73%; solid dosage forms - 4.55%; soft dosage forms - 59.08%; gaseous dosage forms - 13.64%. The structure of medicines by type of dosage forms is shown in Fig. 1.

Based on Fig. 1, it can be said that the largest number of soft dosage forms are left in the structure of medicines intended for the treatment of skin diseases.

## 4. DISCUSSION

Medicines intended for the treatment of skin diseases can be of both synthetic and plant origin [7]. We will analyze the studied group of drugs by composition (INN) (Table 3).

Based on Table 3, it can be indicated that the range includes both synthetic and plant-based preparations.

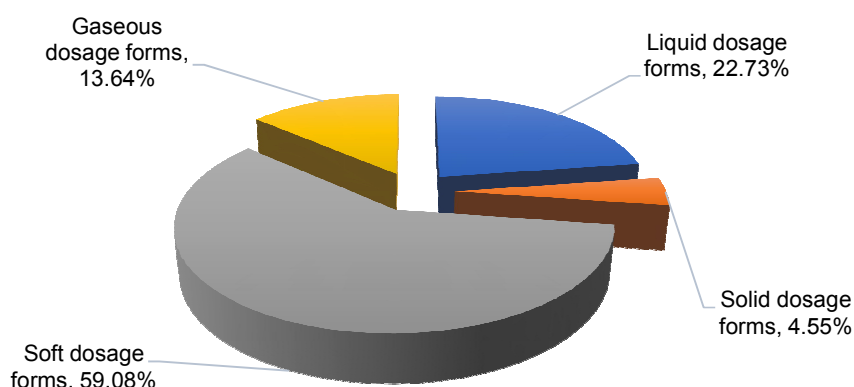
In the literature, a structural analysis of drugs is also carried out [8] In Table 4, a structural analysis of the studied group of drugs by composition is carried out.

**Table 1. The range of medicines intended for the treatment of skin diseases**

No.	Name of the medicinal product	Type of dosage form
1	Abisib	Liquid extract
2	Avekort	Ointment for external use
3	Adolen	Gel for external use
4	Alorom	Liniment
5	Ammifurin	Solution for external use
6	Argosulfan	Cream for external use
7	Batrafen	Cream for external use
8	Berestin	Solution for external use
9	Belosalic	Ointment for external use
10	Bramisil	Pills
11	Hiporhamin	Ointment for external use
12	Daktarin	Spray for external use
13	Kalanchin	Liniment
14	Candiderm	Cream for external use
15	Camadol	Extract [oil-based]
16	Lomaherpan	Cream for external use
17	Metrogyl	Gel for external use
18	Nitrofungin	Solution for external use
19	Powercort	Cream for external use
20	Terbix	Spray for external use
21	Cinocap	Aerosol for external use
22	Erasaban	Cream for external use

**Table 2. Analysis of dosage forms of medicines intended for the treatment of skin diseases**

Dosage forms	Amount	
	Total	Share, %
<b>1. Liquid dosage forms</b>		
Liquid extracts	1	4,55
Oil extracts	1	4,55
Solution for external use	3	13,64
Total	5	22,73
<b>2. Solid dosage forms</b>		
Pills	1	4,55
Total	1	4,55
<b>3. Soft dosage forms</b>		
Liniments	2	9,09
Gels	2	9,09
Creams	6	27,26
Ointments	3	13,64
Total	13	59,08
<b>4. Gaseous dosage forms</b>		
Aerosol	1	4,55
Spray	2	9,09
Total	3	13,64
Grand total	22	100,0



**Fig. 1. Structure of medicinal forms of drugs for the treatment of skin diseases**

**Table 3. The composition of drugs intended for the treatment of skin diseases**

No.	Name of the medicinal product	INN (International non-proprietary names)
1	2	3
1	Abisib	Siberian fir extract (Abies sibirici extract)
2	Avekort	Mometasone
3	Adolen	Adapalene
4	Alorom	Aloe tree leaf juice + Calendula officinalis flower Extract + Castor beans oil + Chamomillae recutitae floridis extract + Eucalypti viminalis foliorum oleum +[Racementhol]
5	Ammifurin	Ammi majus fructuum furocumarines
6	Argosulfan	Sulfathiazole silver
7	Batrafen	Ciclopirox
8	Berestin	Birch tar (Pix Betulae)
9	Belosalic	Betamethasone +[ Salicylic acid]
10	Bramisil	Terbinafine
11	Hiporhamin	Sea buckthorn leaf extract
12	Daktarin	Miconazole
13	Kalanchin	Kalanchoe
14	Candiderm	Beclometasone + Gentamicin + Clotrimazole
15	Camadol	Calendula officinalis flower oil + Chamomillae recutitae floridis extract
16	Lomaherpan	Melissae officinalis foliorum extract
17	Metrogyl	Metronidazole
18	Nitrofungin	Chlornitrophenol
19	Powercort	Clobetasol
20	Terbix	Terbinafine
21	Cinocap	Pyrithione zinc
22	Erasaban	Docosanol

**Table 4. Analysis of medicinal products intended for the treatment of skin diseases by composition**

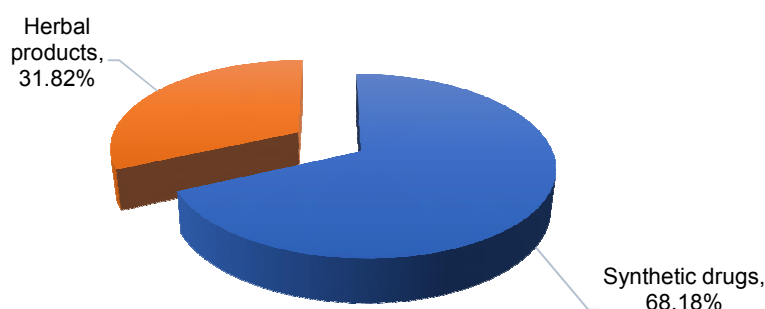
	Number of names of medicines					
	Total		Synthetic drugs		Herbal	
Abs.	Share,%	Abs.	Share,%	Abs.	Share,%	
22	100,0	15	68,18	7	31,82	

Based on Table 4, it can be said that the largest number of synthetic drugs in the assortment is 68.18%; the share of herbal products was 31.82%. The structure of the composition of drugs intended for the treatment of skin diseases is shown in Fig. 2.

In addition, the study of medicines should include an analysis of medicines in the context of the

producing countries [9]. In the range of medicines intended for the treatment of skin diseases, there are drugs available, both domestic and foreign manufacturers (Table 5).

We will analyze the countries of manufacturers of medicines used for the treatment of skin diseases in Table 6.



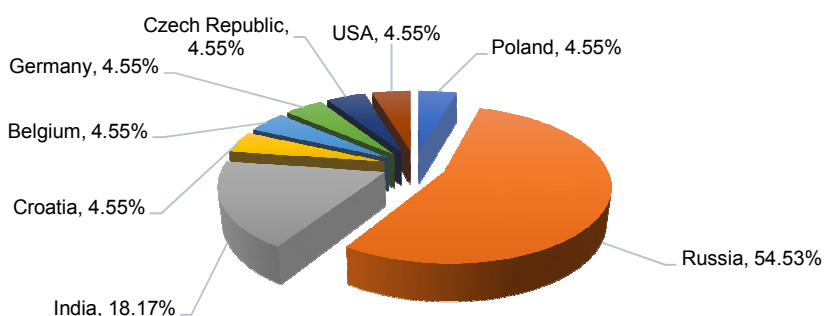
**Fig. 2. Structure of medicinal products intended for the treatment of skin diseases by composition**

**Table 5. Countries that produce medicines intended for the treatment of skin diseases in the assortment of pharmacies of the “World of Medicines” chain**

No.	Name of the medicinal product	Producing country
1	Abisib	Russia
2	Avekort	Russia
3	Adolen	Russia
4	Alorom	Russia
5	Ammifurin	Russia
6	Argosulfan	Poland
7	Batrafen	India
8	Berestin	Russia
9	Belosalic	Croatia
10	Bramisil	Russia
11	Hiporhamin	Russia
12	Daktarin	Belgium
13	Kalanchin	Russia
14	Candiderm	India
15	Camadol	Russia
16	Lomaherpan	Germany
17	Metrogyl	India
18	Nitrofungin	Czech Republic
19	Powercort	India
20	Terbix	Russia
21	Cinocap	Russia
22	Erasaban	USA

**Table 6. Analysis of the countries of manufacturers of medicines used in the treatment of skin diseases**

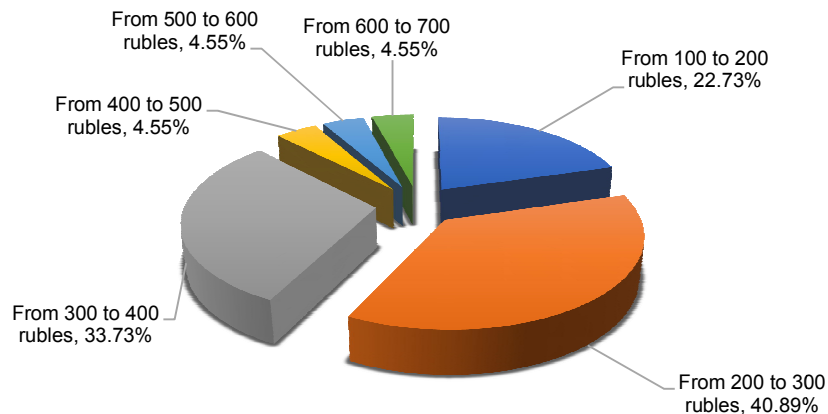
No.	Producing country	The amount of products		The ranking of countries
		Total	Share, %	
1	Poland	1	4,55	3
2	Russia	12	54,53	1
3	India	4	18,17	2
4	Croatia	1	4,55	3
5	Belgium	1	4,55	3
6	Germany	1	4,55	3
7	Czech Republic	1	4,55	3
8	USA	1	4,55	3
<b>Total</b>		<b>22</b>	<b>100</b>	<b>-</b>

**Fig. 3. Structure of countries producing medicines intended for the treatment of skin diseases****Table 7. Prices for medicines for the treatment of skin diseases in the network of pharmacies "World of medicines" (Belgorod)**

No.	Name of the medicinal product	Price
1	Abisib	122,0
2	Avekort	210,0
3	Adolen	560,0
4	Alorom	320,0
5	Ammifurin	670,0
6	Argosulfan	260,0
7	Batrafen	296,0
8	Berestin	95,0
9	Belosalic	360,0
10	Bramisil	197,0
11	Hiporhamin	156,0
12	Daktarin	540,0
13	Kalanchin	395,0
14	Candiderm	371,0
15	Camadol	264,0
16	Lomaherpan	239,0
17	Metrogyl	142,0
18	Nitrofungin	231,0
19	Powercort	204,0
20	Terbix	224
21	Cinocap	291
22	Erasaban	342

**Table 8. Analysis of price categories of medicines intended for the treatment of skin diseases**

No.	Price category	Amount	Share, %
1	From 100 to 200 rubles	5	22,73
2	From 200 to 300 rubles	9	40,89
3	From 300 to 400 rubles	5	33,73
4	From 400 to 500 rubles	1	4,55
5	From 500 to 600 rubles	1	4,55
6	From 600 to 700 rubles	1	4,55
	Total	22	100,0

**Fig. 4. Structure of price categories of medicines intended for the treatment of skin diseases**

The structure of the countries producing medicines intended for the treatment of skin diseases is shown in Fig. 3.

Based on Fig. 3, we can say that the majority of drugs are presented in the pharmacy by domestic manufacturers (54.53%), in second place are drugs produced in India -18.17%; the third place was shared by the countries: Poland, Croatia, Belgium, Germany, the Czech Republic, the United States -4.55%.

Price analysis of medicines, as noted in the literature, is a very important aspect in the study of the range and availability of medicines [10] / Medicines intended for the treatment of skin diseases are presented in pharmacies in various price categories (Table 7).

Based on Table 7, we will analyze the price categories of medicines intended for the treatment of skin diseases (Table 8).

The structure of the price categories of medicines intended for the treatment of skin diseases is shown in Fig. 4.

The analysis of price categories of pharmaceuticals for the treatment of skin diseases revealed that in the price category from 100 to 200 RUB presents 22,73% of drugs; in the category from 200 to 300 rubles - 49,89%; from 300 to 400 rubles from 33.73%; from 400 to 700 rubles - on 4,55%.

## 5. CONCLUSION

During the analysis, the following data were obtained. The range under study is represented in the pharmacy by 22 items. The analysis of dosage forms of medicines intended for the treatment of skin diseases showed that liquid dosage forms accounted for 22.73%; solid dosage forms -4.55%; soft dosage forms-59.08%; gaseous dosage forms -13.64%. When analyzing the drugs, it was revealed that the largest number of synthetic drugs in the assortment is 68.18%; the share of herbal drugs was 31.82%. Analysis of the producing countries showed that most of the drugs presented to the pharmacy by domestic producers (54,53%), in the second place drugs manufactured in India - 18,17%; third place was shared by countries:

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## CONSENT

It's not applicable.

## ETHICAL APPROVAL

It's not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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