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2019 - 2020 ЖЫЛДАРҒЫ ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ФАРМАЦЕВТИКАЛЫҚ НАРЫҒЫНДА СОРУҒА АРНАЛҒАН ДӘРІЛІК ФОРМАЛАРДЫҢ МАРКЕТИНГТІК ТАЛДАУЫ

Түйін: Біз Қазақстан Республикасындағы соруға арналған дәрілік формалардың нарығына егжей-тегжейлі маркетингтік талдау жүргіздік. 2019-2020 жылдарға арналған сату көшбасшылары, шетелдік және отандық өндірушілердің үлесі және нарық көлемдері туралы мәліметтер келтірілген.

Түйінді сөздер: соруға арналған дәрілік заттар, соруға арналған пастилкалар, соруға арналған таблеткалар, импортты алмастыру.

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MARKETING ANALYSIS OF DOSAGE FORMS FOR RESORPTION IN THE PHARMACEUTICAL MARKET OF THE REPUBLIC OF KAZAKHSTAN FOR 2019 – 2020

Resume: The pharmaceutical market in Kazakhstan is growing every year. Domestic companies increase domestic production of drugs and dietary supplements, which certainly contributes to the problem of import substitution. However, it is worth to pay attention to simpler medicines, which our citizens use practically every day. Such drugs include liquids for resorption, which relieve unpleasant symptoms of infectious and inflammatory diseases of the mouth and throat, improving the quality of life. It is worth paying attention to this market segment, which amounts to millions of U.S. dollars.

We have carried out a detailed marketing analysis of the dosage forms market for resorption in Republic of Kazakhstan. The data on the share of foreign and domestic manufacturers and market volumes for 2019-2020 are presented.

Key words: dosage forms for resorption, lozenges, tablets for resorption, import substitution.

UDC 615.246.4 (574)

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ANALYSIS OF LAXATIVE DRUGS IN THE PHARMACEUTICAL MARKET OF THE REPUBLIC OF KAZAKHSTAN

Resume. The article provides an overview of the market for laxative drugs for 2020 and identifies the main features of this segment of the pharmaceutical market in Kazakhstan. The analysis of laxatives according to the ratio of manufacturing countries, dosage forms, prices was carried out.

Keywords: market analysis, Kazakhstani drug market, laxatives.

Introduction

The dynamic pace of life of a modern person, poor nutrition, bad habits, fungal diseases, stress, poor ecology, which leads to various allergic reactions, uncontrolled consumption of various drugs and dietary supplements - leads to disruption of the gastrointestinal tract (GIT) [1]. Up to 75% of the population are faced with gastrointestinal diseases, in particular with the problem of emptying it (constipation) [2, 3]. Constipation refers to irregular bowel movements with coarse, hard faeces [4]. Constipation has no age. It is observed in

newborns, children, adolescents, adults, and the elderly [5]. Constipation is often the result of various existing diseases in the body [6]. For most people over 60 years of age, constipation is a daily problem solved by taking the right medications and dietary adjustments [7]. It has been estimated that the cost of purchasing laxatives and visiting doctors is \$ 821 million per year [8]. During treatment, the following groups of laxatives are usually prescribed [9, 10]:

- remedies that cause an increase in the volume of faeces;
- remedies that increase the osmotic;

- remedies of irritating action, stimulating secretion and acting on the intestinal epithelium, receptor and muscular apparatus of the large intestine;

- remedies that have an emollient effect on the contents of the intestines.

The active substances used are lactulose, magnesium sulfate, sodium picosulfate, macrogol with a molecular weight of 3000-4000, bisacodyl, lubiprostone, glycerin, horse chestnut, senna, rhubarb, bearwood, buckthorn, cassia, aloe tree, plantain and others. The laxative effect of medicinal plants is often determined by groups of biologically active substances (BAS) - anthracene derivatives, as well as saponins (triterpene glycosides) [11, 12].

The domestic pharmaceutical market offers a range of laxative drugs to the target segment of consumers. In the pharmaceutical industry, great attention is paid to the analysis of the situation in the pharmaceutical market. The pharmaceutical market analysis allows you to evaluate the effectiveness of the decisions made in this industry.

The work aimed at analyzing the Kazakhstani pharmaceutical market for laxative drugs.

Materials and methods

To process and analyze the primary information on the structure of the laxative market, we used statistical methods of grouping and classification using marketing tools. The object of the study is the State Register of laxatives registered in the territory of the Republic of Kazakhstan (RK) in 2020 [13]. Graphic and logical methods were used.

Results and its discussion

In accordance with the ATX classification, laxatives belong to the A06A subgroup. A detailed analysis of the laxative market was carried out with the help of an open regulatory framework registered in the territory of the Republic of Kazakhstan. Table 1 presents an analysis of the pharmaceutical market on the territory of the Republic of Kazakhstan for laxative drugs by manufacturer and country of origin for 2020 [13]. In 2020, 60 laxatives were registered by 38 manufacturers from 23 countries.

Table 1 - Pharmaceutical market of laxative medicinal products by manufacturers, countries - manufacturers registered in the territory of the Republic of Kazakhstan for 2020

No.	Manufacturer	Country	Number of assortment items	Share%
1	M.б.х. Pharmaceutical factory Montavit Tes. M. b.kh	Austria	1	1.66%
2	Fresenius Kabi Austria GmbH	Austria	2	3.34%
3	Pharmtechnology LLC	Belarus	1	1.66%
4	Norgin Limited	Great Britain	1	1.66%
5	Crevel Meiselbach GmbH	Germany	1	1.66%
6	Medical Union Pharmaceuticals	Egypt	1	1.66%
7	Tsipla Ltd	India	1	1.66%
8	Casen Recordati, S.L.	Spain	4	
9	L. Molteni and C. dei Fratelli Alitti Sochieta di Jezerchizio	Italy	2	6.74%
10	Institute de Angeli S.R.L	Italy	2	3.34%
11	Industria Farmaceutica NOVA ARGENTIA S.p.A.	Italy	2	3.34%
12	PC Firm Kyzylmay	Kazakhstan	3	3.34%
13	Pharmacy 2010 LLP	Kazakhstan	2	5%
14	Shansharov-Pharm LLP	Kazakhstan	2	3.34%
15	TC Farm Aktobe LLP	Kazakhstan	1	1.66%
16	Ferring Pharmaceutical Company Limited	China	1	1.66%
17	Grindeks JSC	Latvia	1	1.66%
18	Pharmaprim LLC	Moldova	1	1.66%
19	Abbott Biologicals B.V. *	Netherlands	2	3.34%
20	Herbion Pakistan (Pvt) Ltd	Pakistan	3	5%
21	Poznań Herbapol Herb Plant JSC	Poland	1	1.66%
22	Farmina	Poland	2	3.34%
23	Nizhpharm	Russia	3	5%
24	Antibiotic S.A.	Romania	2	3.34%
25	K.O. MASTER K & amp; K	Romania	1	1.66%
26	Catalent Pharma Solutions LLC	USA	2	3.34%
27	Biopharma (WORLD MEDICINE)	Turkey	1	1.66%
28	Farmak PJSC	Ukraine	2	3.34%
29	Lekhim-Kharkiv JSC	Ukraine	1	1.66%
30	Pharmaceutical Company Health LLC	Ukraine	1	1.66%
31	Lubnyfarm OJSC	Ukraine	1	1.66%
32	Bofur Ipsen Industry	France	3	5%
33	Delpharm Reims S.A.S	France	1	1.66%
34	Shemino Laboratories	France	1	1.66%
35	Famar Orleans	France	1	1.66%
36	Laboratories Galenik Vernen	France	1	1.66%
37	BELUPO, medicines and cosmetics	Croatia	1	1.66%
38	Teva	Czech Republic	1	1.66%
Total	60	100%		

The results of the analysis show that domestic drugs occupy only 13.3% (8 items), respectively, imports make up the dominant part of 86.7% - 52 items (Figure 1). Domestic manufacturers are represented by PC "Firm Kyzylmay" (3 positions), Pharmacy 2010 LLP (2 positions), "Shansharov-Pharm" LLP (2 positions), TC Pharm Aktobe LLP (1 position). Judging by Figure 1, the largest number of imported products is registered in France (11.7% - 7 items), Italy (10% - 6 items) and Ukraine (8.3% - 5 items).

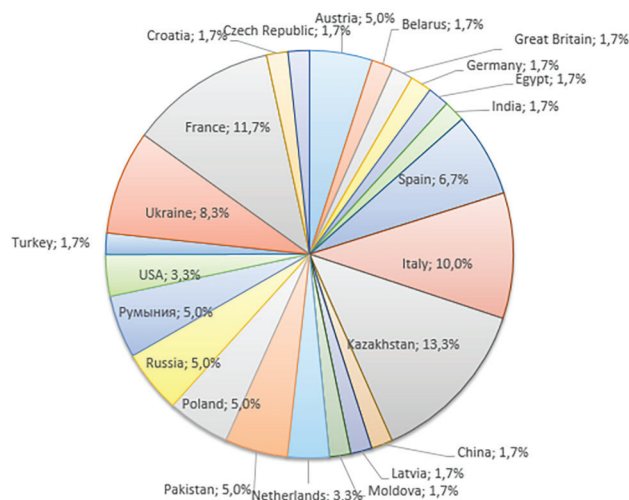


Figure 1 - Diagram of the pharmaceutical market for laxative drugs by producer countries registered in the territory of the Republic of Kazakhstan for 2020

Table 2 lists the formulations of registered laxative medicinal products. The share of drugs obtained from medicinal plant materials is 21.7% - 13 items. The assortment of domestic laxatives is represented exclusively by herbal products, they include such pharmacopoeial plants as senna, castor bean, lemon balm, licorice, rose hips, plantain, polyphytic oil "Kyzyl May" (which includes 7 herbs: St. John's wort, rose hips, lemon balm, thyme, nettle, sea buckthorn, licorice). However, the arsenal of potentially safe and effective medicinal plants growing on the territory of the Republic of Kazakhstan, wide and promising for the further production of various dosage forms is not yet used enough (Table 2).

Senna leaf has the following biologically active substances: dianthrone glycosides in the form of calcium salts of sennosides A, A1, B-G (about 3%); a small amount of anthraquinone glycosides, incl. aloe-emodin and rhein 8-glycosides; mucus (approximately 10%); flavonoids, incl. camferol derivatives; naphthalene glycosides [14], which stimulate the motility of the large intestine, thereby causing bowel movement [15]. It should be noted that products containing the leaves themselves or extracts from them are preferably taken orally (through the mouth), their rectal administration is not effective, because the principle of influence on the body is completely different [16].

Castor oil is bottled at two domestic enterprises - Pharmacia 2010 LLP and Shansharov-Farm LLP in volumes of 30 ml and 50 ml. Castor oil is cold-pressed from the castor bean plant. When taken orally, ricinoleic acid irritates the intestinal receptors (along its entire length) and reflexively enhances peristalsis [17]. Foreign analogues use extracts of senna leaves, oval plantain seed peel, Cape Sabura, buckthorn bark, and rhubarb in their laxative compositions [13].

The analysis of data on the market of laxatives by dosage forms DF was carried out (Figure 2). Suppositories have the largest market share for laxatives (21% - 13 items). This fact is associated with the convenience of using this dosage form, the ability to use it in pediatrics and geriatrics when the patient is unconscious and it is difficult to treat constipation with oral dosage forms [18].

Solid dosage forms are represented by suppositories, powder for preparation of a solution for internal use (17% - 11 items), tablets (14% - 9 items), capsules (3% - 2 items), phyto-tea (3% - 2 items), concentrate (2% - 1 item).

Liquid dosage forms are divided into oral: syrup (13% - 8 items), oral drops (8% - 2 items), oil (3% - 2 items), - as well as rectal: solution for rectal use / enemas, which occupy 13% (8 items).

Soft dosage forms are represented by oral paste (1 item). Thus, solid DFs occupy about 60% of the market, liquid oral - 24%, liquid rectal - 13%, soft - 2%. Domestic manufacturers are focused on the production of phyto-teas, oils for oral administration and laxative suppositories, the action of which is based on the presence of glycerin in the preparations (Figure 2).

Prices for laxative drugs vary in a wide range, ranging from 60 tenge to 5000 tenge (Figure 3). For convenience, the analysis was carried out in the context of dosage forms. Powders for preparation are divided inside into 2 categories into cheap ones, the price of which varies from 60 tenge to 100 tenge, and expensive - from 1300 tenge to 4370 tenge. Cheap drugs are produced by domestic enterprises Pharmacia 2010 LLP and Shansharov-Pharm LLP. Moviprep® (Norgin Limited, UK) is the most expensive product in this category. Tablets also have a fairly wide range of prices from 150 tenge (Senadexin-OAO Lubnyfarm, Ukraine) to 4875 tenge (Senade-Tsipila Ltd, India).

Suppositories are subdivided into 2 types of bisacodyl and glycerin suppositories. Price with bisacodyl varies from 480 tenge (K.O. MASTER K & amp; K, Romania) to 640 tenge (Nizhpharm, Russia), with glycerin from 680 tenge to 1590 tenge. It should be noted that the price of glycerin suppositories depends on the dose. The domestic manufacturer producing laxative suppositories is the PC firm Kyzylmay, the main active ingredient of which is glycerin.

Syrups with lactulose range from 1110 (L. Molteni and K. dei Fratelli Alitti Societa di Ezerchizio, Italy) to 3780 tenge Biopharma (WARD MEDICINE), Turkey), the price depends on the volume of the package. Syrup Lactulose-TK TC Farm Aktobe LLP is produced in Kazakhstan.

Enema is a fairly effective dosage form, their prices range from 1650 tenge to 2565 tenge. Enemas are produced by the French company Famar Orleans (preparations Microlax, Peydolax, Kasenema, AD-ULAX) and the Italian company Industria Farmaceutica NOVA ARGENTIA S.p.A. (preparations of Glyroma).

Phyto-teas and castor oil are produced only by domestic producers (Zerde phyto LLP, PC firm Kyzylmay, Pharmacia 2010 LLP, Shansharov-Farm LLP), the price of which ranges from 120 tenge to 400 tenge.

On the pharmaceutical market of the Republic of Kazakhstan there is a concentrate for the preparation of oral solution under the Eziklen® trademark (Bofur Ipsen Industry, France), its price is about 5000 tenge. Drops for internal use are also in significant demand, their price is 850-1715 tenge (Figure 3).

At the Department of Engineering Disciplines of the School of Pharmacy, an original phyto-drug of laxative action in the form of suppos-

Table 2 - Laxative medicinal phytopreparations registered in the territory of the Republic of Kazakhstan for 2020

No.	Name	Dosage form	Manufacturer	Composition of active ingredients
1	Senade	pills	Tsipla Ltd	senna leaf extract - 93.33 mg
2	KM - Glycerophyte	suppositories	PC Firm Kyzylmay	glycerin - 0.50 g, polyphytic oil "Kyzyl May" - 0.15 g
3	KM-Sennofit			senna dry extract - 0.10 g, polyphytic oil "Kyzyl May" - 0.30 g, glycerin - 0.20 g
4	KM-Laxative			Phyto tea
5	Castor oil	oil	Pharmacy 2010 LLP	castor oil 30 ml
6	Castor oil	oil	Shansharov-Pharm LLP	castor oil 30 ml, 50 ml
7	Senadexin-Health	pills	Pharmaceutical Comp. Health LLC	senna leaf extract, dry 14 mg
8	Fiberlex with natural taste	powder for oral coarse dispersion	Herbion Pakistan (Pvt) Ltd	plantain oval seed peel 5 g
9	Fiberlex with orange flavor			plantain oval seed peel 5 g
10	Fiberlex with fruit flavor			plantain oval seed peel 5 g
11	Alax	pills	Poznań Herbapol Herb Plant JSC	Cape Sabur, powder (Aloe capensis) - 35 mg, dry extract of buckthorn bark (Frangulae corticis extractum siccum) - 42 mg
12	Senadexin	pills	Lubnyfarm OJSC	senadexin from cassia (senna) holly leaves - 70 mg
13	Eucarbon	pills	Pharmaceutical factory Montavit Tes. M. b.kh.	senna leaf 105 mg, rhubarb extract 25 mg, charcoal wood powder 180 mg, purified sulfur 50 mg

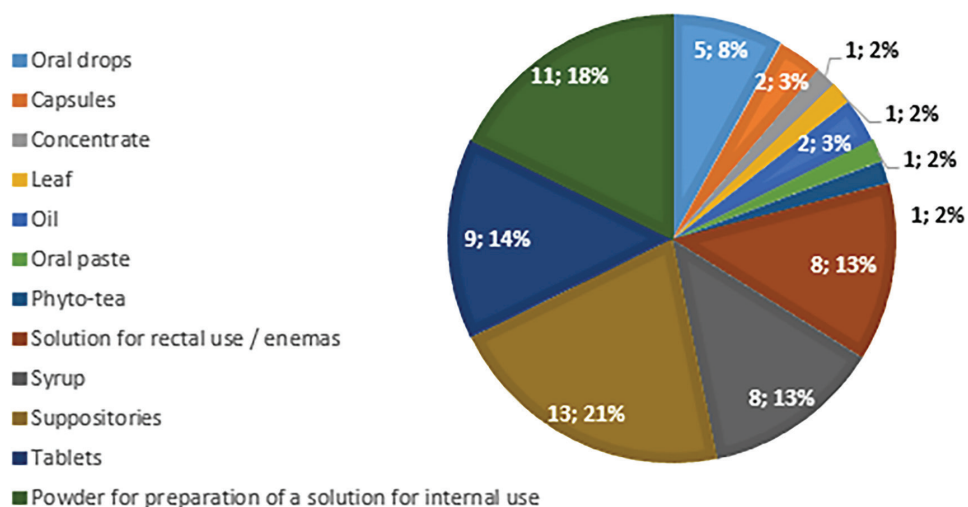


Figure 2 - Diagram of the market laxative drugs by dosage forms registered in the territory of the Republic of Kazakhstan for 2020

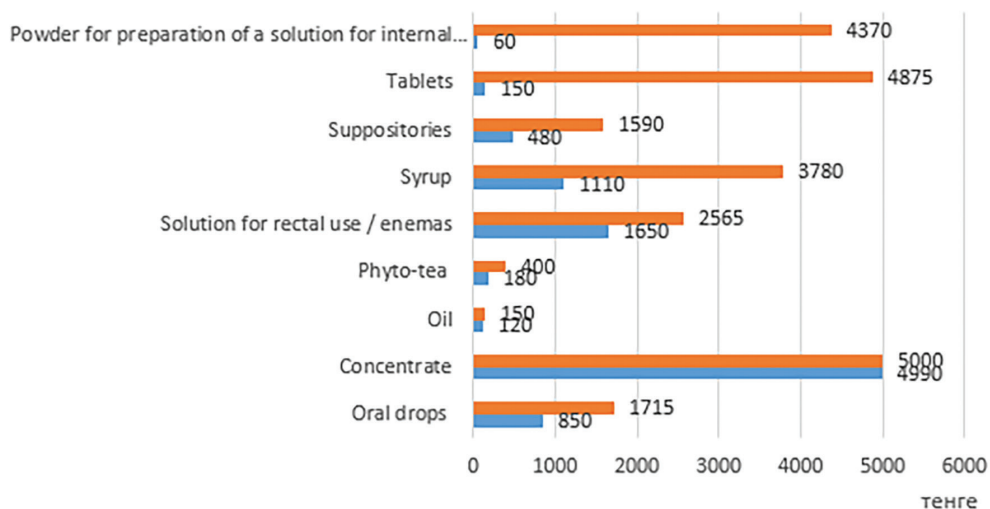


Figure 3 - Diagram of prices of laxative drugs registered in the territory of the Republic of Kazakhstan for 2020 in the context of dosage forms

itories was developed. Its selling price was 769.62 tenge with a profitability of 40%: the cost of production was 550.15 tenge. Conclusions. Thus, the results of the analysis of the domestic pharmaceutical market of laxatives indicate that the assortment of this segment is dominated by a significant share of foreign products. The share of domestic drugs is 13.3%, with predominantly plant origin and their price is lower than imported analogues. Senna leaves and

extracts from them are the active component in most products, but this plant does not grow in the territory of the Republic of Kazakhstan. Kazakhstan has a wide raw material base of pharmacopoeial medicinal and potentially medicinal plants, which are not included in the pharmacopoeial list of those with a pronounced laxative effect. Therefore, the development of the market for laxative pharmaceutical phyto-products is relevant, promising and timely.

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АНАЛИЗ СЛАБИТЕЛЬНЫХ ЛЕКАРСТВЕННЫХ ПРЕПАРАТОВ ФАРМАЦЕВТИЧЕСКОГО РЫНКА РЕСПУБЛИКИ КАЗАХСТАН

Резюме: В статье представлен обзор рынка слабительных лекарственных за 2020 г., установлены основные особенности развития данного сегмента фармацевтического рынка Казахстана. Проведен анализ слабительных препаратов по соотношению стран-производителей, лекарственных форм, цен.

Ключевые слова: анализ рынка, казахстанский рынок лекарственных препаратов, слабительные препараты.

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ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ФАРМАЦЕВТИКА НАРЫҒЫНЫҢ ІШ АЙДАҒЫШ ДӘРІЛІК ПРЕПАРАТТАРЫН ТАЛДАУ

Түйін: Мақалада 2020 жылға арналған іш айдағыш дәрілік заттар нарығына шолу жасалған, Қазақстанның фармацевтикалық нарығының осы сегментін дамытудың негізгі ерекшеліктері белгіленген. Өндіруші елдердің, дәрілік нысандардың, бағалардың арақатынасы бойынша іш айдағыш препараттарға талдау жүргізілді.

Түйінді сөздер: нарықты талдау, дәрілік препараттардың қазақстандық нарығы, іш айдағыш препараттар.