Marketing research of the domestic market of antibiotics and chemotherapeutic drugs for use in dermatology

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A – research concept and design; B – collection and/or assembly of data; C – data analysis and interpretation; D – writing the article; E – critical revision of the article; F – final approval of the article

The aim of work is marketing research of the domestic market of antibiotics and chemotherapeutic drugs for use in dermatology.

Materials and methods. To achieve this goal, electronic official sources of information and pharmacy websites were used. System-analytical, mathematical-statistical, and comparative methods of analysis were employed.

Results. Analysis of the assortment structure of the domestic market of antibiotics and chemotherapeutic drugs for use in dermatology allowed us to establish that in this segment there are original drugs (30.4 %) and generics (69.6 %), monopreparations (84.1 %) and combined (15.9 %) ones. Drugs of the studied group are represented by various dosage forms, among which soft dosage forms dominate (85.4 %). When studying the corporate structure of this market segment, it was found that 56.6 % of drugs come from abroad from 12 countries of the world and 21 pharmaceutical companies, the leader of which is the United Kingdom (dij = 0.0758). The study of the level of competition showed that the greatest competition is observed among the manufacturers of acyclovir and mupirocin generics (Kvi = 0.89). Calculation of the liquidity ratio, which exceeds 0.5, confirms incomplete availability of these medicines for the population of Ukraine.

Conclusions. A marketing study of the domestic market of antibiotics and chemotherapeutic drugs for use in dermatology was conducted. The assortment and corporate structures of this market segment are defined. The level of competitiveness of the pharmaceutical companies is analyzed, and the most successful ones are identified. The liquidity and solvency ratio was calculated, which allowed us to draw conclusions about the availability of these medicines for the population of Ukraine. In the future, in the healthcare system of Ukraine, an important direction should be outlined to improve the system of providing medical care to patients with dermatological diseases.

Key words: marketing research, drug market, Dermatology, antibiotics, chemotherapeutic drugs.

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MARKETINOVO DOLZHENNENI VITCHIZNYANOY RINOK ANTIBIOTIKOV I HIMIETERAPEVITCHNYCH PREPARATOV DLA ZASTOSOVANIA V DERMATOLOGII

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МЕТА РОБОТИ – МАРКЕТИНГОВО ДОСЛІДЖЕННЯ ВІТЧИЗНЯНОГО РИНКУ АНТИБІОТИКІВ І ХІМІТЕРАПЕВТИЧНИХ ПРЕПАРАТІВ ДЛЯ ЗАСТОСУВАННЯ В ДЕРМАТОЛОГІЇ

МАТЕРІАЛІЇ ТА МЕТОДИ. Для досягнення поставленої цілі використали електронні офіційні джерела інформації та інтернет-сидити, аптеч. Застосували системно-аналітичний, математико-статистичний, порівняльний методи аналізу.

РЯЗУЛЬТАТИ. Аналіз асортиментної структури вітчизняного ринку антибіотиків та хімітерапевтичних препаратів для застосування в дерматології дав змогу встановити, що в цьому сегменті є оригінальні препарати (30,4 %) та генерики (69,6 %), монопрепарати (84,1 %) та комбіновані (15,9 %). Препарати групи, що досліджували, представлені різними лікарськими формами, серед них перевагу мають м'які лікарські форми (85,4 %). Досліджуючі фірму серед інших виробників міжнародної репутації, виявили, що 56,6 % препаратів ймовірно у 12 країнах світу (21 фармацевтична компанія), лідером є Велика Британія (dij = 0,0758). Вивчення рівня конкуренції відзначено змогу здійснити: найбільша конкуренція спостерігається серед фірм, які випускають аналоги мікробіурелію та мікробіурелію (Kvi = 0,89).

ВИСНОВКИ. Проведено маркетингове дослідження вітчизняного ринку антибіотиків та хімітерапевтичних препаратів для застосування в дерматології. Визначена асортиментна та фірмова структура цього сегмента ринку. Проаналізували рівень конкуруючої здатності фармацевтичних компаній, виявлені найбільш успішні з них. Розрахували коефіцієнт ліквідності та платоспроможності, що дало змогу здійснити висновки щодо доступності зазначених ліків для населення України. В перспективі в системі охорони здоров'я
The incidence of dermatoses today is an urgent medical and social problem not only in Ukraine, but also around the world [1]. Moreover, over the past 10 years, there has been an increase in the share of dermatological and venereal diseases in the overall structure of morbidity in our country.

Treatment of patients with skin diseases is a rather complex task, requiring, in addition to special knowledge of the essence of certain dermatoses and their causes, as well as thorough familiarity with the effect of the drugs used [2].

Skin infections are among the most common disorders found in community and hospital environments. These can present in a variety of forms, ranging from limited superficial infections that are controlled by treatment with topical antibiotics to severe infections of deep tissues that can lead to death if the patient is not appropriately treated [3].

Although the vast majority of skin infections must be treated with systemic antibiotics, topical antibiotics are used overwhelmingly in the world, often as self-prescribed medications without taking into account the sensitivity of the presumed bacteria. Dermatologists are aware that different types of topical antibiotics kill different species of bacteria and tend to be more specific in their prescriptions. At present, local antibiotics are advised to treat minor superficial uncomplicated skin infections (e.g. impetigo) and to prevent bacterial infections caused into minor cuts, scrapes, and burns [4,5].

Aim
The purpose of work is marketing research of the domestic market of antibiotics and chemotherapeutic drugs for use in dermatology.

Materials and methods
To achieve this goal, electronic official sources of information [6,8] and pharmacy websites were used [9]. Desk research and selective analytical method were used.

Results
The study of the assortment structure was carried out in accordance with the “State Register of Medicines of Ukraine” (PBX code D06), which registered 69 names of medicines for topical use of these pharmacological subgroups (D06A, D06B, D06C) [6,8].

It was found that this market segment includes 21 (30.4 %) original drugs and 48 (69.6 %) generics.

Of the studied group, 84.1 % were monopreparations and 15.9 % were combined medicines.

The range of medical products of the studied group includes various dosage forms. Soft dosage forms have an advantage (85.4 %): ointments (33.3 %), creams (39.1 %), gels (5.8 %), liniments (7.2 %).

The market structure in the studied segment is characterized by a large number of firms, including 21 (30.4 %) original drugs and 48 (69.6 %) generics.

The analysis of the assortment structure of the domestic market of antibiotics and chemotherapeutic drugs for use in dermatology showed that the market segment includes 21 (30.4 %) original drugs and 48 (69.6 %) generics.

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The range of medical products of the studied group includes various dosage forms. Soft dosage forms have an advantage (85.4 %): ointments (33.3 %), creams (39.1 %), gels (5.8 %), liniments (7.2 %).
Other dosage forms were distributed as follows: powders – 8.7%; liquid dosage forms – 5.9%, of which solutions – 2.9%; sprays – 3.0% (Fig. 1).

The results of the analysis of the corporate structure of the market segment under study are presented in Table 1.

**Discussion**

Table 1 shows that only 46.38% of the drugs in the study group are produced on the territory of Ukraine. Among 15 domestic manufacturers of such medicines, the leaders are LLC “Pharmaceutical Company “Zdorovje”, Ukraine (7.25%), PJSC “Lubynypharm”, Ukraine (7.25%). 53.62% of drugs in this group come from abroad, from 12 countries from 21 pharmaceutical companies.

| #   | Manufacturing enterprise, country          | The number of dosage forms | The ratio of total, % | The market share (dij) |
|-----|-------------------------------------------|---------------------------|----------------------|-----------------------|
| 1   | Zdorovje, Pharm. Company, LLC, Ukraine    | 5                         | 46.38                | 0.0725                |
| 2   | PJSC “Khimpharmzavod “Chervona zirka”, Ukraine | 4                         | 0.0580               |
| 3   | PJSC “Lubynypharm”, Ukraine              | 5                         | 0.0725               |
| 4   | PJSC “Filopharm”, Ukraine                | 2                         | 0.0290               |
| 5   | PJSC Pharm. Factory “Viola”, Ukraine     | 3                         | 0.0435               |
| 6   | Eurasia LLC, Ukraine                     | 1                         | 0.0145               |
| 7   | LLC “DKP Pharm. Factory”, Ukraine        | 3                         | 0.0435               |
| 8   | LLC “Ternopharm”, Ukraine                | 1                         | 0.0145               |
| 9   | East-Plus LLC, Ukraine                   | 1                         | 0.0145               |
| 10  | Ukrainian-Spanish joint venture “Sperco Ukraine” | 1                         | 0.0145               |
| 11  | PJSC “Farma”, Ukraine                    | 1                         | 0.0145               |
| 12  | PJSC “Kyivmedpreparat”, Ukraine          | 2                         | 0.0290               |
| 13  | PJSC “Pharm. Firm “Darnitsa”, Ukraine    | 1                         | 0.0145               |
| 14  | JSC Borschagovsky Chemical Pharm. Plant, Ukraine | 1                         | 0.0145               |
| 15  | PJSC “Pharm. Firm “FarCoS”, Ukraine      | 1                         | 0.0145               |
| 16  | Tarkhominksky Pharm. Plant Polfa JSC, Poland | 1                         | 4.35                 | 0.0145               |
| 17  | Elfa Pharm Polska, Poland                | 2                         | 0.0290               |
| 18  | JSC “Nizhpharm”, RF                      | 1                         | 1.45                 | 0.0145               |
| 19  | Sandoz GmbH-TechOps, Merck KGaA & Co Verk Spittal, Austria | 2                         | 2.90                 | 0.0290               |
| 20  | mibe GmbH Arzneimittel, Germany          | 2                         | 10.14                | 0.0290               |
| 21  | Engelhard Arzneimittel GmbH & Co. KG, Germany | 2                         | 0.0290               |
| 22  | Salutas Pharma GmbH, Germany             | 2                         | 0.0290               |
| 23  | STADA Arzneimittel AG, Germany           | 1                         | 0.0145               |
| 24  | Glaxo Operations UK Ltd, UK              | 5                         | 11.60                | 0.0580               |
| 25  | 3M Health Care Ltd, UK                   | 2                         | 0.0290               |
| 26  | Dendron Brands Ltd, UK                   | 1                         | 0.0145               |
| 27  | Bosnalek d.d., Bosnia and Herzegovina    | 1                         | 1.45                 | 0.0145               |
| 28  | Pharma International Company, Jordan      | 3                         | 4.35                 | 0.0435               |
| 29  | Belupo, medicines and cosmetics, etc., Croatia | 2                         | 4.35                 | 0.0290               |
| 30  | Jadrans-Galenisky Laboratory dd, Croatia  | 1                         | 0.0145               |
Table 2. Distribution of medicines by active ingredients

| #  | Manufacturing enterprise, country         | The number of dosage forms | The ratio of total, % | The market share (dij) |
|----|-------------------------------------------|---------------------------|-----------------------|------------------------|
| 31 | Medgenix Benelux NV, Belgium              | 2                         | 2.90                  | 0.0345                 |
| 32 | Kusum Healthcare Pvt Ltd, India           | 1                         |                       | 0.0145                 |
| 33 | Glenmark Pharmaceuticals Co., Ltd., India | 3                         | 7.25                  | 0.0435                 |
| 34 | "Unique Pharmaceutical Laboratories", India | 1                       |                       | 0.0145                 |
| 35 | JSC Grindeks, Latvia                      | 1                         | 1                     | 0.0145                 |
| 36 | B. Braun Medical S. A., Spain             | 1                         | 1.45                  | 0.0145                 |
|    |                                           | 69                        | 100                   |                        |

Table 3. Indicators of the tension coefficient between manufacturers of topical antibacterial and chemotherapeutic agents

| The name of the active ingredients of drugs | Coefficient of tension (Kvi) | The name of the active ingredients of drugs | Coefficient of tension (Kvi) |
|--------------------------------------------|-----------------------------|--------------------------------------------|-----------------------------|
| Monodrugs                                  |                             |                                            |                             |
| Tetracycline                               | –                           | Sulfonamide                                | 0.83                        |
| Fusidic acid                               | 0.75                        | Denotivir                                  | –                           |
| Sodium fusidate                            | –                           | Glycyrrhizic acid                          | –                           |
| Neomycin                                   | –                           | Ayclovar                                   | 0.89                        |
| Gentamicin                                 | -0.5                        | Penciclovir                                | 0.85                        |
| Tyrothricin                                | 0                           | Imiquiandom                                | 0.67                        |
| Mupirocin                                  | 0.89                        | Docosanol                                  | –                           |
| Sulfadiazine silver                       | 0.67                        | Metronidazole                              | 0.5                         |
| Sulfatiazole silver                       | –                            | Chloramphenicol                            | 0.83                        |
| Combined drugs                             |                             |                                            |                             |
| Bacitracin                                 | 0.75                        | Gentamicin                                 | 0.5                         |
| Ayclovar                                   | –                           | Chloramphenicol                            | 0.5                         |
| Amikacin                                   | –                           | Ofloxacin                                  | –                           |
| Metronidazole                              | –                            |                                            |                             |
| Drug Name                                | Average Price | Standard Deviation |
|------------------------------------------|---------------|--------------------|
| Streptocide ointment 10 % 25 g           | 271.2         |                   |
| Levomycetin solution 1 % 25 ml           | 264.47        |                   |
| Levomycetin solution 0.25 % 25 ml       | 261.56        |                   |
| Streptocide ointment 5 % 25 g (tubes)    | 250.8         |                   |
| Streptocide liniment 5 % 30 g            | 226.13        |                   |
| Streptocide powder 15 g                  | 219.67        |                   |
| Syntomycin liniment. 100 mg/25 g         | 219.23        |                   |
| Tyrosur gel 1 mg/25 g                    | 195.8         |                   |
| Lipster cream 800 mg Nr 20               | 179.82        |                   |
| Tyrosur powder 1 mg/20 g                 | 175.79        |                   |
| Bactroban ointment. 2 % 3 g              | 146.81        |                   |
| Inflarax ointment 50 g                   | 144.45        |                   |
| Argosulfan cream 20 mg/l 15 g            | 141.78        |                   |
| Aflubin® Penciclovir cream 1 %           | 138.9         |                   |
| Fusiderm ointment 20 mg/l 15 g           | 137.95        |                   |
| Baneocin powder 10 g                     | 137.55        |                   |
| Bactroban ointment 2 % 15 g              | 138.12        |                   |
| Fusicutan ointment 2 % 15 g              | 128.3         |                   |
| Oflocaine-Darnita ointment 30 g          | 127.47        |                   |
| Tyrosur gel 1 mg/l 5 g                   | 115.65        |                   |
| Metrogil gel 10 mg/l 30 g                | 111.22        |                   |
| Baneocin ointment 20 g                   | 108.05        |                   |
| Bondern ointment 20 mg/l 15 g            | 108           |                   |
| Rosamet cream 1 % 25 g                   | 107           |                   |
| Bactadis ointment 2 % 15 g               | 99.81         |                   |
| Neomycin plus powder 10 g                | 97.75         |                   |
| Neomycin plus powder 10 g                | 97.75         |                   |
| Vratizoline cream 30 mg/l 3 g            | 95.24         |                   |
| Herpevir ointment 2.5 % 15 g             | 95.09         |                   |
| Gentaxan powder 8 g                      | 94.4          |                   |
| Gentasept powder 5 g                     | 91.6          |                   |
| Pen-herpevir cream 10 mg/g 2 g           | 90.65         |                   |
| Neomycin Plus Ointment 20 g (tubes)      | 90.25         |                   |
| Neomycin Plus Ointment 20 g              | 87.92         |                   |
| Penciclovir-Phytopharm cream 1 %        | 85.96         |                   |
| Lip Cream 1 % 5 g                        | 83.58         |                   |
| Inflarax ointment 25 g                   | 82.37         |                   |
| Zovirax duo cream 2 g each               | 76.14         |                   |
| Herpevir ointment 2.5 % 5 g              | 76.03         |                   |
| Acyclostad cream 5 % 2 g                 | 75.5          |                   |
| Lipster cream 5 % 5 g                    | 74.4          |                   |
| Syntomycin liniment. 100 mg/l 25 g       | 74.08         |                   |
| Levosin ointment 40 g                    | 73.99         |                   |
| Zovirax cream 5 % 2 g each               | 72.82         |                   |
| Gentaxan powder 5 g                      | 70.34         |                   |
| Metrolavin ointment 40 g                 | 70.06         |                   |
| Syntomycin liniment 10 % 25 g            | 68.97         |                   |
| Acyclovir Belupo cream 5 % 5 g           | 68.2          |                   |
| Labrum cream 1 % 5 g                     | 68.07         |                   |
| Acic, cream 5 %                          | 64.75         |                   |
| Agerp cream 5 % 2 g                      | 64.19         |                   |
| Oflocaine-Darnita ointment 15 g          | 58.25         |                   |
| Gentasept powder 2 g                     | 57.18         |                   |
| Penciclovir                             | 55.1          |                   |
| Acyclovir-Visha ointment 2.5 % 10 g      | 53.88         |                   |
| Inflarax ointment 15 g                   | 53.19         |                   |
| Fastin ointment 25 g                     | 52.19         |                   |
| Syntomycin liniment 50 mg/l 25 g         | 50.85         |                   |
| Gentaxan powder 2 g                      | 47.3          |                   |
| Gentaxan liniment 5 % 25 g               | 46.84         |                   |
| Streptocide powder 15 g                  | 41.5          |                   |
| Acyclovir-Vishfa ointment 2.5% 10 g      | 26.91         |                   |
| Streptocide powder 15 g                  | 21.87         |                   |
| Streptocide ointment 5 % 25 g            | 19.75         |                   |
| Streptocide ointment 10 % 25 g (tubes)   | 13.79         |                   |
| Levomycetin solution 0.25 % 25 ml       | 13.06         |                   |
| Levomycetin solution 1 % 25 ml          | 12.32         |                   |

Fig 2. Average retail price local antibiotics and chemotherapeutic drugs to the pharmaceutical market of Ukraine, UAH.
### Table 4. Monopolization coefficient of topical antibacterial and chemotherapeutic agents

| #  | Name of the manufacturer’s company                        | Patenting | Kµ  |
|----|----------------------------------------------------------|-----------|-----|
| 1  | PJSC “Pharm. Firm «FarCoS”, Ukraine                      | 1         | 0.0145 |
| 2  | PJSC “Kylvmedpreparat”, Ukraine                          | 2         | 0.0290 |
| 3  | PJSC “Pharm. Firm «Darnitsa”, Ukraine                    | 1         | 0.0145 |
| 4  | Elfa Pharm Polska, Poland                                | 1         | 0.0145 |
| 5  | STADA Arzneimittel AG, Germany                           | 1         | 0.0145 |
| 6  | Salutas Pharma GmbH, Germany                             | 1         | 0.0145 |
| 7  | Glaxo Operations UK Ltd, UK                              | 1         | 0.0145 |
| 8  | Pharma International Company, Jordan                      | 3         | 0.0435 |
| 9  | Jadran-Galenisky Laboratory dd, Croatia                   | 1         | 0.0145 |
| 10 | Medgenix Benelux NV, Belgium                             | 2         | 0.0290 |
| 11 | “Unique Pharmaceutical Laboratories”, India               | 1         | 0.0145 |
| 12 | JSC Grindeks, Latvia                                     | 1         | 0.0152 |
| 13 | mibe GmbH Arzneimittel, Germany                          | 2         | 0.0290 |
| 14 | Bosnalek d.d., Bosnia and Herzegovina                    | 1         | 0.0145 |

### Table 5. Results of analysis of indicators of socio-economic availability of antibacterial and chemotherapeutic agents for topical use of a retail pharmacy chain

| Name of the medicinal product | Kliq | Ca.s. | Name of the medicinal product          | Kliq | Ca.s. |
|-------------------------------|------|-------|----------------------------------------|------|-------|
| Zovirax cream 5 % 2 g each    | 0.46 | 0.52  | Vratizoline cream 30 mg/g 3 g          | 0.44 | 0.68  |
| Zovirax duo cream 2 g each    | 0.17 | 0.54  | Epigen sex spray 0.1 % 60 ml           | 0.25 | 1.88  |
| Acic, cream 5 %               | 0.38 | 0.46  | Epigen sex spray 0.1 % 15 ml           | 0.11 | 1.86  |
| Aflubin® Penciclovir cream 1 %| 0.29 | 0.99  | Epigen sex gel. 250 ml                 | 0.86 | 1.93  |
| Penciclovir-Phytopharm cream 1 %| 0.56 | 0.61  | Oflocaine-Darnitsa ointment 15 g        | 0.48 | 0.41  |
| Penciclovir-Health cream 10 mg/5g | 0.21 | 0.39  | Oflocaine-Darnitsa ointment 30 g        | 0.40 | 0.82  |
| Pen-herpevir cream 10 mg/g 2 g| 1.16 | 0.65  | Metrogil gel 10 mg/g 30 g               | 0.47 | 0.77  |
| Labium cream 1 % 5 g          | 0.47 | 0.48  | Rosamet cream 1 % 25 g                 | 0.24 | 0.75  |
| Lip Cream 1 % 5 g             | 0.64 | 0.60  | Inflarax ointment 25 g                 | 0.36 | 0.59  |
| Aldara cream 5 % 250 mg        | 0.33 | 9.32  | Inflarax ointment 50 g                 | 0.39 | 1.03  |
| Keravort cream 5 % 250 mg      | 0.17 | 9.09  | Inflarax ointment 100 g                | 0.26 | 1.79  |
| Acyclovir-Vishfa ointment 2.5 % 10 g | 0.74 | 0.38  | Inflarax ointment 15 g                 | 0.38 | 0.38  |
| Acyclovir Belupo cream 5 % 5 g| 0.88 | 0.49  | Metrolavin ointment 40 g                | 0.19 | 0.50  |
| Herpevir ointment 2.5 % 5 g    | 0.46 | 0.54  | Gentasept powder 5 g                   | 0.51 | 0.65  |
| Herpevir ointment 2.5 % 15 g   | 0.38 | 0.68  | Gentasept powder 2 g                   | 0.54 | 0.41  |
| Herpevir powder 250 mg         | 0.08 | 5.54  | Gentaxan powder 5 g                    | 0.35 | 0.50  |
| Agerp cream 5 % 2 g            | 0.65 | 0.46  | Gentaxan powder 2 g                    | 0.24 | 0.34  |
| Lipster cream 5 % 5 g          | 0.98 | 0.53  | Gentaxan powder 8 g                    | 0.29 | 0.67  |
| Lipster cream 800 mg N0 20     | 0.39 | 1.28  | Fastin ointment 25 g                   | 0.96 | 0.37  |
| Aycyclostad cream 5 % 2 g      | 0.57 | 0.54  | Levosin ointment 40 g                  | 0.44 | 0.53  |
| Neomycin Plus Ointment 20 g    | 0.17 | 0.63  | Fusicutan ointment 2 % 15 g            | 0.22 | 0.91  |
| Neomycin plus powder 10 g      | 0.10 | 0.69  | Fusicutan cream 2 % 15 g               | 0.16 | 0.91  |
| Banecocin powder 10 g          | 0.44 | 0.98  | Fusiderm ointment 20 mg/g 15 g         | 0.33 | 0.98  |
| Banecocin ointment 20 g        | 0    | 0.77  | Syntomycin liniment. 100 mg/g 25 g     | 0.48 | 0.53  |
The leader among foreign manufacturers is the United Kingdom, whose 3 pharmaceutical companies provide 11.6% of antibacterial and chemotherapeutic agents for the treatment of dermatological diseases to the Ukrainian market.

The share of the national pharmaceutical market segment occupied by each of the manufacturers of medicines for the treatment of dermatological diseases was calculated using the formula:

\[ dij = nij / \Sigma nij, \]  

where \( nij \) – is the number of drugs of the \( j \)-th company in the i-segment; \( \Sigma nij \) – total number of segment of i-drugs registered in Ukraine.

The calculation data are shown in Table 2.

The results showed that the largest share in the study segment belongs to the pharmaceutical company Glaxo Operations UK, Limited, Great Britain (\( dij = 0.0758 \)). Among the pharmaceutical companies-enterprises, Pharma International Company, Jordan has the highest monopolization coefficient (\( K\mu = 0.0455 \)).

At the next stage, the competitiveness of firms providing medicines of the study group to the national pharmaceutical market was analyzed [7].

To determine the level of competition between manufacturers of analogue drugs, the intensity coefficient \( Kvi \) was calculated using the formula:

\[ Kvi = (n - 1) / n, \]  

where \( n \) – is the number of all competitive analogues produced by different manufacturers.

At the same time, the studied drugs were grouped by active substances into 18 groups for monodrugs and 7 groups for combined drugs according to the ATC classification:

After analyzing the data obtained, we can conclude that the greatest competition is observed among companies that produce analogues of Acyclovir and Mupirocin (\( Kvi = 0.89 \)).

Among the studied drugs, there are original proprietary drugs. Their specific weight in a particular pharmacotherapeutic group shows how attractive this group is for research in terms of updating with new drugs. These are the so-called "Brandname".

The specific weight of branded drugs by group allows us to determine the level of monopolization of the corresponding market segments. For a comparative assessment of these indicators, the conditional coefficient of monopolization of market segments-\( K\mu \) – is used.

\[ K\mu = Bn / \Sigma Nj, \]  

where \( Bn \) – number of branded drugs; \( \Sigma Nj \) – the total number of registered drugs in the \( j \)-th pharmacotherapeutic group.

We calculated the monopolization coefficient (Table 4). This table shows that among pharmaceutical companies supplying antibacterial and chemotherapeutic agents for the treatment of dermatological diseases, Pharma International Company, Jordan has the highest monopolization coefficient (\( K\mu = 0.0455 \)).

To study the indicators of socio-economic accessibility, the liquidity ratio and the solvency adequacy ratio were determined.

The liquidity ratio was calculated using the formula:

\[ Kliq = (P_{max} - P_{min}) / P_{min}, \]  

where \( Kliq \) – price liquidity ratio; \( P_{max} \) – maximum price for medicines; \( P_{min} \) – minimum price for the drug.
Site data was used for analysis Tabletki.ua as of November 2021 [9].

One of the relative indicators of socio-economic availability of medicines is the coefficient of adequacy of solvency, which is determined by the formula:

\[
C_a.s. = \frac{P}{Wa.w.} \times 100\% ,
\]

where \(C_a.s.\) – solvency adequacy ratio; \(P\) – average price of the drug for a certain period of time (November 2021); \(Wa.w.\) – average salary for a certain period (according to the state statistics service of Ukraine). In November 2021, the average salary was UAH 14.282 [10].

The results obtained indicate a fairly high level of local antibacterial and chemotherapeutic agents on the market, and these drugs are all the more accessible to consumers (Fig. 1, Table 5).

Conclusions

1. A marketing study of the domestic market of antibiotics and chemotherapeutic drugs for use in dermatology has been conducted.
2. The assortment and corporate structures of this market segment are determined.
3. The level of competitiveness of the above-mentioned pharmaceutical companies is analyzed, and the most successful ones are identified.
4. The liquidity and solvency ratio was calculated, which allowed us to draw conclusions about the availability of these medicines for the population of Ukraine.
5. In the future, in the healthcare system of Ukraine, an important direction should be introduced to improve the system of providing medical care to patients with dermatological diseases.

Conflicts of interest: authors have no conflict of interest to declare.

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