

ФАРМАЦЕВТИЧЕСКИЕ НАУКИ

Pharmaceutical sciences

UDC 614.2:339.138:615.2:616.72:2-455

DOI: 10.18413/2313-8955-2015-1-4-87-90

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**OPTIMIZATION OF INFORMATION SUPPORT
FOR PHARMACIES IN THE FIELD OF PHARMACEUTICAL
AID TO CHILDREN WITH ARTHROPATHY**

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Abstract.

The paper presents an analysis of information awareness of pharmaceutical personnel on aspects of pharmaceutical aid to children with joint diseases; we analyzed the product portfolio of medicines for treating children with juvenile arthritis in the ambulatory outpatient conditions, taking into account consumer preferences and economic opportunities of their families; we developed a materials bank for pharmaceutical information counseling of pharmacy personnel in terms of pharmaceutical aid to children with joint diseases.

Keywords: pharmaceutical aid, medicines, children, arthritis, product portfolio, pharmacies.

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**ОПТИМИЗАЦИЯ ИНФОРМАЦИОННОГО ОБЕСПЕЧЕНИЯ АПТЕК
В ОБЛАСТИ ФАРМАЦЕВТИЧЕСКОЙ ПОМОЩИ ДЕТЯМ
С ЗАБОЛЕВАНИЯМИ СУСТАВОВ**

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Аннотация. В статье представлены результаты анализа информационной осведомленности фармацевтических работников по аспектам фармацевтической помощи детям с заболеваниями суставов; проанализированы ассортиментные портфели лекарственных средств для лечения детей с юношеским артритом в амбулаторно – поликлинических условиях с учетом потребительских предпочтений и экономических возможностей семьи; разработан банк материалов для фармацевтического информационного консультирования работников аптек в области фармацевтической помощи детям с заболеваниями суставов.

Ключевые слова: фармацевтическая помощь, лекарственные средства, дети, артриты, ассортиментные портфели, аптеки.

Introduction: The Joint diseases in children, grouped as «juvenile arthritis», tend today to the steady increase in the population of children and adolescents, which leads to higher social and medical significance of the problem. Pharmacotherapy of this nosology provides long-term outpatient and inpatient treatment [1, 3].

Children in outpatient treatment are provided with medicines from the pharmacies for patients' own funds. However, in the case of the high cost of prescribed drugs, the parents who cannot afford the entire complex, buy it partially, or don't buy at all. As a result, there is a significant decline in the quality of the therapy, slowing of the healing process, and, as a consequence, an increased likelihood of disease process to become chronic [2].

Given that the final element in providing drugs to outpatient patients is the pharmacy, a competent pharmaceutical information counseling (PIC) of consumers by the pharmaceutical personnel in terms of range of drugs comes to the fore, which contributes to the acquisition of the full range of medicines prescribed by a doctor. However, currently, the pharmaceutical experts incur an information deficit in aspects of pharmaceutical care in the pharmacotherapy of rare diseases, including diseases of the joints in children.

In connection therewith, the optimization of informational support for pharmacies in the field of pharmaceutical aid to children with arthropathy is a highly relevant issue.

Objective of this paper is the optimization of informational support for pharmacies in the field of pharmaceutical aid to children with arthropathy (using juvenile arthritis as an example).

Objects of research: 300 pharmaceutical professionals working in Russian pharmacies; Internet resources: the State Register of Medicinal Products 2015; Encyclopedia of Drugs: Russian Drug Register 2015, the International Classification of Diseases, 10th Revision (ICD-10), Widal's Handbook «Medicines in Russia» 2015, and Russian Public Opinion Research Center (RPORC) <http://wciom.ru/>

Research methods: analytical approach, method of ranking, graphic method, comparison method, and sociological method (questionnaire survey).

Results and discussion. In order to optimize informational support for pharmacies in the field of pharmaceutical aid to children with arthropathy is a highly relevant issue, we developed a concept of

study consisting of 3 stages. The first stage of the study involves theoretical aspects of optimization of information support to the pharmacies in terms of pharmaceutical aid to children with joint diseases; the second stage involves analysis of information awareness of pharmaceutical personnel on the provision of pharmaceutical aid to children with joint diseases; and the third stage includes development of a materials bank for pharmaceutical information counseling of pharmacy personnel in terms of pharmaceutical aid to children with joint diseases.

Thus, the second stage of the study involved sociological research in the form of full-time and part-time (online) questionnaire survey of 300 pharmaceutical professionals on the basis of pharmacies of Belgorod and other cities of Russia. On the basis thereof a professional portrait of a pharmaceutical specialist has been created. We found that it is a woman – 91.7%; aged 20 to 30 years – 69%; with specialized secondary pharmaceutical education – 52.7%; working on a specialty from 1 to 5 years – 56.7%; carrying out her professional activity in Belgorod pharmacies – 63.7%. We revealed that 87% of pharmaceutical specialists had in their practice the cases of arthritis in children; while 80.7% of respondents are aware of the possible causes of the disease; 91.7% of pharmaceutical employees are aware of the probability of chronic articular process and disability in case of delayed reference to the doctor by reason of pain in the joints in children.

We determined that only 34.3% of parents refer to the pharmacy with the medications prescribed by doctor; 43.9% of patients ask a pharmaceutical professional to provide an advice on the choice of the drug in situ. It was found that in case of parents referring to the pharmacy with complains of joint pain in children, more than half of the respondents would dispense external or oral NSAIDs in accordance with the age of the child, and definitely advise to refer to a doctor – 51%. Conspicuous is the fact that about 50% of respondents indicated that parents often ask to replace the prescribed medications with cheaper equivalents. We revealed that the source of professional information for pharmaceutical professionals is reference literature – 44.4%, books and periodicals are used as additional information – 48.4%; 89.7% of respondents consider necessary to draw the attention of parents to the necessity for timely reference to the doctor upon the first symptoms of the joint disease in their child; 55.1% of respondents consider visual materials to be the most convincing information on the need to see a

doctor; in particular, the thematic posters – 32.7%; 92.3% of respondents indicated that placing such materials in the pharmacy will enhance the level of parental responsibility for children's health, as well as timely reference to a doctor; and 88.3% of respondents consider helpful to have a list of drugs in the pharmacy, effective for the treatment of juvenile arthritis, and at different price. Thus, we have revealed the interest of pharmaceutical professionals in the development of materials, which make up the information deficit in the matters of pharmaceutical aid to children with the joint diseases.

As part of the 3rd stage of the study, we analyzed the drugs product portfolio of different price categories for the treatment of juvenile arthritis on an outpatient basis developed in 2013 at the Department of Management and Economics of Pharmacy of NRU «BSU» under the guidance of professor Spichak I.V. The portfolios have been created due to the following approach: to involve the drugs with the maximum possible consumer characteristics such as pharmacotherapeutic efficacy, age restrictions, price, ease of use, safety, and a certain price range for one course of treatment.

Conclusion. We have formed a data bank (DB) for pharmaceutical professionals, designed to advise consumers on pharmaceutical and consumer characteristics of drugs used in treating joint diseases in children. The data bank includes 3 lists in three different price categories: «high-cost», «mid-price», and «low-cost» and contains summary of pharmaceutical and consumer characteristics of the described drugs and is to be placed in the pharmacy checkout area.

Thus, a data bank on high-cost drugs for the treatment of juvenile poly-/oligoarticular arthritis includes 7 essential drugs (EsD) and 4 equivalent drugs (EqD) in accordance with the pharmacotherapeutic complex – disease-modifying agents – basic anti-inflammatory drugs; the drugs

affecting the blood system and blood formation; symptom-modifying agents. Average cost per course of treatment amounts up to 7,600 rubles. The medicines of the above complex are original, have a high pharmacotherapeutic effect and consumer features, however cost-intensive. The mid-price list in the data bank contains 7 EsD and 6 EqD. The estimated cost per course of treatment amounts up to 4,600 rubles. The low-cost list in the data bank with the average cost per course of treatment up to 1,600 rubles includes 8 EsD and 8 EqD, which are usually the domestic products, having successfully proven themselves in the treatment of this pathology.

The developed materials are presented for the purpose of creation of a pharmacy product portfolio policy in the field of drugs for the treatment of joint diseases in children, which will ensure optimization of the advice of pharmaceutical professional to parents on the choice of children's medicines based on the doctor's prescriptions, and fully meet the client's information needs.

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Table

A fragment of a data bank on mid-price drugs for juvenile poly-/oligoarticular arthritis in children (the estimated cost per course of treatment amounts up to 4,600 rubles)

Essential drug									
No.	Trade name	INN	Type of drug	PF, dosage	Manufacturing country	Dispensing requirements	Age restrictions	Dosage regimen	Note
Nonsteroidal anti-inflammatory drugs (NSAIDs) Symptomatic therapy of articular syndrome: anti-inflammatory, analgesic effect. The drugs are prescribed prior to a regression of the articular syndrome and normalization of laboratory test values.									
1	Mataren	Meloxicamum	Generic drug	Tablets 7.5 mg No. 20	Russia	<u>Dispense on prescription</u> <u>Prescription form No. 107/Y</u>	From age 12	Per os. 15mg/day, after positive therapeutic effect the dose can be reduced to 7.5 mg/day	With food
2	Voltaren Emulgel	Diclophenacum	Original drug	gel 1%, 20 g	Switzerland	<u>Pharmacy dispensing – over-the-counter</u>	From age 12	Topical Drug amount to apply depends on the size of trigger area. A single dose – 2-4 gram (comparable to the size of a cherry or walnut) is sufficient to cover the 400-800 cm ² area	The drug is applied to the skin 3-4 times/day with gentle massage
3	Nurofen for children	Ibuprofen	Generic drug	oral suspension 100 mg/5 ml	Great Britain	<u>Pharmacy dispensing – over-the-counter</u>	Per os. Children aged 3 to 6 months – 2.5 ml, 3 times a day (not more than 150 mg/day); 6 to 12 months – 2.5 ml 3-4 times a day (maximum 200 mg/day); 1 year to 3 years – 5 ml 3 times a day (not more than 300 mg/day); 4 to 6 years – 7.5 ml 3 times per day (up to 450 mg/day); 7 to 9 years – 10 ml 3 times per day (up to 600 mg/day); 10 to 12 years – 15 ml 3 times per day (up to 900 mg/day)		
4	Nise	Nimesulidum	Original drug	dispersible tablets 50 mg No.20	India	<u>Dispense on prescription</u> <u>Prescription form No. 107/Y</u>	From age 2	Per os. 100 mg 2 times a day before meals (pour the sachet content into a glass and dissolve in water), for 7-14 days	In case of discomfort in the stomach, the drug can be taken at the end or after a meal
5	Nise	Nimesulidum	Original drug	gel 1%, 20 g	India	<u>Pharmacy dispensing – over-the-counter</u>	From age 7	Topical Apply a uniform thin layer of 3 cm gel column on the area of maximum tenderness, do not rub, 3-4 times/day.	
6	Indovasin	Indomethacinum + Troxerutinum	Original drug	gel for external use	Bulgaria	<u>Pharmacy dispensing – over-the-counter</u>	From age 14	Topical Apply 4-5 cm of a thin gel layer on the affected area with gentle massaging movements	