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Research Article

**THE OPTIMIZATION OF MEDICINAL MAINTENANCE FOR
CHILDREN WITH WEIGHT PROBLEMS**

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E-mail spichakiv@yandex.ru**Abstract:**

The article presents the results of multifaceted research focused on the optimization of medicinal maintenance of children with weight problems. It deals with the sociological survey of the schoolchildren revealing the predisposition to overweight and underweight, the medical- social portraits of children with obesity and hypotrophy. The marketing analysis of the drug market for treatment of weight problems is carried out, the macrocontour of the Russian market and mesocontour of a regional market (by the example of the Belgorod region) is described. As a result of multidimensional examination the medical-pharmaceutical file of drug assortment for treatment of obesity at children is generated.

Keywords: medicinal maintenance, overweight at children, market of medicinal preparations, medical-pharmaceutical file of medicinal preparations.

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INTRODUCTION:

The normal weight of the child is one of the major factors of the health condition. Nowadays there is a growing tendency of diseases connected with overweight. In the developed countries of the world up to 25 % of the teenagers are overweight, and 15 % are obese [1,2]. Almost at 60 % adults with obesity had their problems with overweight being children and teenagers [3].

The prevalence of hypotrophy among children worldwide, depending on the level of their socio economic development, varies from 2-7 up to 30 % [4,5]. On the data of Federal Service on Surveillance for Consumer rights protection and human well-being of Russian Federation 19 % of children and teenagers are underweight, hypotrophy is diagnosed approximately at 1-2 % of children.

The occurrence of complications and growth of physical inability promotes lacks of delivering of medical pharmaceutical help to children: a wide variety of medicines on the pharmaceutical market of the country, and the region complicates a choice of a preparation for treatment; the lack of the appropriate information in the standards of treatment and clinical recommendations in in-patient and out-patient care; the interruption of interaction in system "doctor – pharmacist - patient" etc.[6,7,8,9,10].

According to the above stated tendency, today it is urgent to develop the approaches of optimization of the pharmaceutical help to children with underweight on the basis of system management, rational pharmaceutical management, there is a necessity of introduction of pharmaceutical information products allowing to solve the problem of information maintenance of the medical workers and the patients.

The work objective is the optimization of medicinal maintenance of underweight children by an example of the Belgorod region.

The objects of research: 300 questionnaires of sociological research of the schoolchildren, official and help sources of the information about medicines, price-lists of the pharmaceutical companies - distributors, software "Analyst-pharmacy", Internet - resources.

METHODOLOGY:

The methodological basis are the approaches of modern pharmaceutical management, principles of the system analysis, pharmacoeconomics, the works of the prominent scientists in the field of management and economy of pharmacy, legislative and normative documents of the Russian Federation, the Belgorod region.

Methods: system, structural, graphic, content analysis, economic-mathematical (comparison, grouping, ranking, value), sociological (questionnaire survey, expert estimation).

MAINPART

For the purpose realization the research concept consisting of 4 stages is developed: the sociological research of the schoolchildren on presence of predisposition to weight problems, marketing analysis of the pharmaceutical market for the treatment of weight problems, multidimensional examination of the pharmaceutical assortment and formation of the medical pharmaceutical file of the pharmaceutical assortment for treatment of children with overweight.

Table 1: The structure of assortment of drugs used for therapy over weight in Russian and regional markets according to the ATC classification

NAME OF THE CLASSIFICATION GROUP	Number of titles												
	INN		TN		MEDICINE								
					ALL			WITH RUSSIAN.		WITH IMPORTED		WITH NEW	
	Ab s.	Prop, %	Abs.	Prop, %	Abs..	Prop, %	grade	Abs..	Prop, %	Abs..	Prop, %	Abs.	I _o
<i>Russian pharmaceutical market</i>													
1. Drugs for alimentary tract and metabolism(A)	14	14,9	35	24,5	76	19,6	II	38	50,0	38	50,0	30	0,4
2. Drugs for cardiovascular system (C)	2	2,1	2	1,4	8	2,1	IV	8	100,0	-	-	2	0,25
3. Drugs for nervous system(N)	34	36,2	53	37,1	229	58,9	I	153	66,8	76	33,2	65	0,28
4. Drugs fir respiratory system (R)	1	1,1	1	0,6	2	0,5	VI	2	100,0	-	-	1	0,5
5. Dietary supplements	38	40,4	47	32,9	65	16,8	III	35	53,8	30	46,2	40	0,62
6. Homeopathic medicine	5	5,3	5	3,5	8	2,1	IV	6	75,0	2	25,0	4	0,5
Total	94	100,0	143	100,0	388	100,0		242	62,4	146	37,6	142	0,37
<i>Regional pharmaceutical market</i>													
1. Drugs for alimentary tract and metabolism(A)	13	13,8	28	19,6	41	10,6	II	24	31,6	17	22,4	15	0,2
2. Drugs for cardiovascular system (C)	1	1,1	1	0,7	2	0,5	V	2	25,0	-	-	-	-
3. Drugs for nervous system(N)	26	27,6	39	27,2	86	22,1	I	53	23,1	33	14,4	27	0,12
4. Drugs fir respiratory system (R)	1	1,1	1	0,7	1	0,3	VI	1	50,0	-	-	1	0,5
5. Dietary supplements	9	9,6	9	6,3	9	2,3	III	3	4,6	6	9,2	7	0,11
6. Homeopathic medicine	3	3,2	3	2,1	5	1,3	IV	3	37,5	2	25,0	4	0,5
Total	53	56,4	81	56,6	144	37,1		86	22,2	58	14,9	54	0,14

Within the framework of the first stage the sociological research is carried out with the purpose of revealing presence of predisposition weight problems among children. The questionnaire is developed, the sociological interrogation of 300 Belgorod schoolchildren of 7 - 11 forms at the age from 13 till 18 is carried out.

During the analysis of anthropomorphic data, it is revealed, that the normal weight is observed at 37.8 %, 36.7 % of all respondents are overweight, 25.5 % are underweight.

As a result, the medical-social portraits of children with weight problems are developed. So, in particular, a teenager who is overweight is a boy (64.7 %), of 7 form, at the age of 13-14 (28.8 %), a city dweller (100 %), quite satisfied with the weight (62 %) and not worried about the weight (more than 84 %). At the same time, the teenager understands the necessity of maintenance of the diet (in 50 % of cases), and 17 % of cases even accepts medicinal preparations for the solving of this problem. The teenager tries to keep to 3 times meals (59 %), however only in 53 % of cases the diet is various and useful and does not contain fast food components. The teenager, as a rule, is in the basic group of health (about 62 %), understands the necessity of conducting an active style of life (62 %), tries to attend sports clubs or lessons of physical culture, however a lot of time is spent in physical inactivity, sitting in front of the computer.

On the second stage the marketing analysis of the pharmaceutical market for treatment of children with weight problems is held. The content file of the research has made 94 working substances, the general assortment totals 143 trade names of medicines and 388 medicines in view of all forms of manufacturing and dosage (Table1). Both the macrocontour of the Russian pharmaceutical market of medicines for treatment of weight problems, and mesocontour of the regional market (Belgorod region) are developed.

So, in particular the macrocontour of the market is presented, basically, by medicines for treatment of nervous system (58.9 %), a leading position among is occupied by psychoanaleptics and nootropics (21.4 %). The medicinal preparations of domestic

manufacture (62.4 %) and monocomponent medicines (72.7 %) prevail. In 79.9 % of cases the analyzed assortment is submitted as the firm medicinal forms, mainly as capsules 23.0 %. A share of new preparations for treatment of overweight for the analyzed period has made 37.0 %.

Comparing macro- and mesocontours of the pharmaceutical markets for treatment of overweight is established, that of assortment of the regional pharmaceutical market concedes on a range of the offered preparations and makes 37.1 % of Russian market. At the analysis of criterion «Age restrictions" it is established, that only 9.5 % of medicines are prohibited for treatment of children. More than 73 % are approved to application in children's practice or have no age restrictions, however only 1 preparation has the children's medicinal form.

For the realization of the third block of research the methodical approach of multidimensional examination of pharmaceutical assortment for treatment of children is used (Figure 1). The first stage of realization of multidimensional examination of pharmaceutical assortment is the formation of the pharmaceutical information file for the doctors - experts. At the second stage with attraction of the medical workers the analysis of the pharmaceutical file will be carried out, as a result the medical-pharmaceutical file of medicines is formed, on the basis of which pharmacotherapeutic complexes for treatment of overweight at children are developed.

On the first stage the pharmaceutical examination of drug assortment is carried out, including: the defining of the criteria of pharmaceutical examination of drug assortment for the given conditions of the analysis; the analysis of the list of the drug characteristics, choice and substantiation of their use; drug selection, appropriate to the requirements; the removal from examination of preparations which are not appropriate to the barrier characteristics; formation of the summary information file of the drug characteristics for the further granting to doctors.

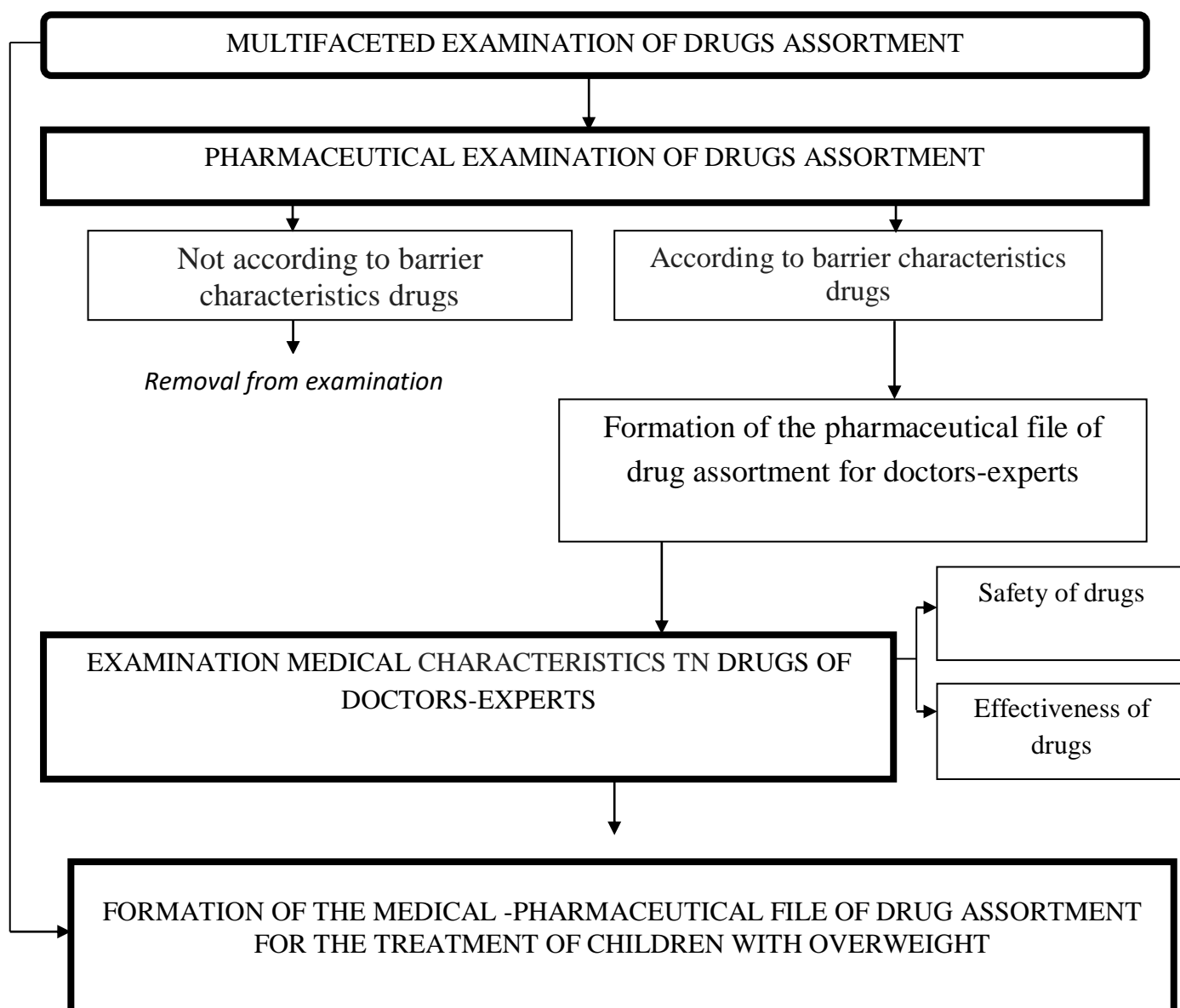


Fig 1: Methodical approach to realization multifaceted examination of drugs assortment for the treatment of children with overweight

The realization of pharmaceutical examination and formation of information materials was carried out on the basis of the comparative analysis of 17 basic characteristics. The main restrictive criterion for drug selection and drug removal from examination was the parameter "Age restrictions " and "Side effects".

At the second stage the highly skilled doctors - experts carry out examination of the basic drug groups, submitted in the information file, under the medical characteristics: safety and efficiency. The characteristic estimates "Safety" an opportunity of application of a preparation in children's practice, and the characteristic gives "Efficiency" by means of a three-mark scale evaluation (0 - 2 numbers)

information on a level of drug efficiency in drug treatment of overweight.

As the result of the research the medical-pharmaceutical file of drug assortment for treatment of overweight at children is generated, its use can promote: the optimization of drug prescriptions by the doctors - experts for the treatment of obese children with in out-patient conditions; the elimination of information deficiency about drugs , used for treatment of researched nosology; the optimization of pharmaceutical consultation in chemist's organizations at the expense of information support of the pharmaceutical experts.

CONCLUSION:

1.As a result of sociological research of 300 schoolchildren there are target groups of children - consumers of pharmaceutical services in the field of weight correction, their basic marketing characteristics for the subsequent substantiation of directions of the pharmaceutical help. The medical-sociological portraits of over- and underweight children are developed.

2.During the marketing analysis the macrocontour of the Russian pharmaceutical market for treatment of overweight, and also mesocontour of the regional market (Belgorod region). It is revealed, that of assortment of the regional pharmaceutical market concedes on a range of offered preparations and makes 37.1 % of Russian market. It is established, that more than 73 % drugs are approved to in children's practice, however only 1 preparation has the children's medicinal form.

3.The multidimensional examination of drug assortment for treatment of overweight at children includes: pharmaceutical examination of drugs from the point of view of their characteristics and the examination of the medical characteristics of the drugs by the doctors – experts, it generalized the results in a basis of development of information materials for the medical and pharmaceutical workers.

4.The medical-pharmaceutical file of drug assortment for treatment of obesity at children is generated; it promotes the optimization of activity of the doctors and chemists.

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