СОГЛАСОВАНО

Генеральный директор ЗАО

"МАСТЕРЛЕК"

Академик РАЕН А.М.ШУСТЕР

" 20" апреля 2002 г.

УТВЕРЖДАЮ

Главный детский инфекционист МЗ РФ

Заведующий кафедрой детских инфекций

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В.Ф. УЧАЙКИН

" 20" апреля 2002 г.

IT IS AGREE OND
The Director-General OF THE PRIVATELY HELD COMPANY
"MASTERLEK"
Academician OF RAYEN A.M.SHUSTER
"" April of 2002.

I ASSERT
Main children's infectionist MZ RF
Chairman of department of the children's infections
RGMU, academician IS FRAME, d.m.n., the professor
V.F. UCHAYKIN
"" April of 2002.

REPORT
on the marketing study
"arbidol in the preventive maintenance of the influenza and other sharp respiratory virus infections in children at the age is older than 6 years".
(open comparative study).

Moscow 2002.

1. General information.

Sponsor
PRIVATELY HELD COMPANY "MASTERLEK", 143000. Moscow region, g. Odintsov, railway station street, house 2, bodies. 781-10-92.
F.I.O. and the post of the person, who signs from the side of sponsor, the protocol of the study: Schuster Aleksandr Mikhaylovich - the Director-General OF THE PRIVATELY HELD COMPANY OF "MASTERLEK"
Specialist, who corresponds for conducting of a study from the side of sponsor - managing by the scientifically- clinical division PRIVATELY HELD COMPANY OF "MASTERLEK" doctor of medical sciences, the professor of braziers Boris Lvovich.

Medical establishments, which carry out a study.
1. Russian state medical university, the department of children's infectious diseases, the committee of public health of Moscow, the children's polyclinic of №y22 VAO.
The leader of a study - chairman of department of children's infectious diseases RGMU, academician ARE FRAME, the doctor of medical sciences, professor Uchaykin V.F., telephone 2362551.

Researchers:
1. are storeroom O.V., candidate of medical sciences, the senior scientific worker of the department of children's infectious diseases RGMU.

2. Substantiation of a study.

The maximum maintenance of the health of children - worthy purpose, after which they must stand the complex theoretical and practical confirmation, which correspond to the contemporary requirements of "demonstrative medicine" (evidence based medicine). They include: refusal, as far as possible, from the routine inspections, the preference of selective approach, the goal-directed search for the diseases, whose preventive maintenance has social, medical and economic need.

Unfavorable demographic processes in our society are accompanied by sharp worsening in the status of the health of children and adolescents. Thus, in the last 10 -15 years the morbidity of the children of all age classes grew considerably. At the basis of worsening in the health status lies the entire complex of the social and economic reasons, among which the leading role plays the decrease of the volume of preventive programs (O.F.Vykhristyuk, G.A.Samsygina, 1998).

Sharp respiratory infections relate to the number of most extended diseases of man and compose half or more from the total number of acute diseases (Pilar Orine F.J. and co-auth., 1998). As early as 1979 by the World Health Organization (WHO - WORLD HEALTH ORGANIZATION) it was rekomendovano to the scientific research associations focus first priority attention on the development of the effective methods of preventive maintenance and timely diagnostics of respiratory pathology in children. After practically quarter of century the problem of respiratory infections in children became even more urgent. The diseases of the organs of respiration - most frequent pathology in children (Kagans S.YU. and co-auth., 1998), which specifies the expediency to isolate sharp respiratory infections into the separate group of the diseases of respiratory system. The results of epidemiological studies attest to the fact that on the average each child transfers from 3 to 5 episodes ORZ per year (Korovin N.A. and co-auth., 1998).

Substantiation for conducting of the present investigation were data of statistics, publications (Kagans S.YU. and co-auth, 1998, Korovin N.A. and co-auth., 1998) and "historical cohort", which testify about the high level of morbidity by respiratory infections among the children's population. In this case the average annual dynamics of morbidity by influenza and by another ORVI in children reflects its high level predominantly in the cold season. The sufficiently significant lift of morbidity during September in the comparison with the summer months is caused by not so much climatic conditions, as by factor of "mixing of infections" in the organized children's collectives (kindergartens, school) at the moment of their formation after summer vacations. Data of the seasonal dynamics of the etiology of respiratory diseases testify about the suppressing predominance above the influenza infection of other agents of acute respiratory virus diseases. The relationship of the influenza and other sharp respiratory infections according to the data of long-standing observations tentatively composes 1:5.

The specific part of the children's population is subjected to frequent recurrent respiratory diseases. Children, who frequently and prolongedly be ill by acute respiratory diseases, it is accepted to separate into the separate group of clinic

observation. Child to competently carry to the group of the "frequently becoming white children" when the increased morbidity with respiratory infections is not connected with the steadfast innate, hereditary or acquired pathologic states. These children deserve special attention, since frequent respiratory diseases can cause stalling basic adaptive mechanisms, lead to the significant disturbances of the functional state of organism and contribute to the development of chronic pathology. Domestic pediatricians carry children to the group of those frequently being ill (table 4) on the basis of the criteria, proposed By v.Yu.Al'bitskim and A.A. by Baranov (1986).

Table 2.
Criteria of the start of children in the group "frequently of those being ill".

Age of the children	Frequency of sharp respiratory virus infections per year
Children up to the 1st year of the life	4 and more
Children of up to 3 years	6 and more
Children of 4-5 years	5 and more
Children are older than 5 years	4 and more

In children at the age of older than 3 years as the criterion for the start in the group "frequently of those being ill" is used "infectious index" - the ratio of the sum of the cases of acute respiratory diseases to the age of child. U of the "frequently being ill children" index kolebletsya in limits of 1.1-3.5.

Group the "frequently being ill children" is very heterogeneous in composition of patients, nature of diseases or their combinations, which makes the use of the standardized preventive programs in practice impossible. According to the data Of al'binskogo V.M., Baranov A.A. (1986) in the group of the frequently being ill children of the disease of the upper respiratory tract they compose 82%, in this case the frequency of respiratory infections is especially high. Dutau G (1996) are examined the following debatable and unresolved questions: beginning from what moment the infectious diseases of the upper respiratory tract they must be taken into consideration? What research must be conducted for evaluating the mechanisms of this pathology? How to warn relapses and complications? Is paid attention to the fact that today there exists no ideal therapeutic solution of this many-sided pathology. The author comes to the conclusion that their frequency from 3 to 5 for a period of recent three months is the basic marker of the relapsing respiratory infections in children. Very important was the fact that with episodes less than 5 times per year the searches for etiological and pathogenetic factors were rarely reliable. The author estimates these episodes as "required", that facilitate the "production of physiological immunity". With the episodes more than 10 V the results of the searches for the etiological and predisposing factors were positive in 80% of cases with the direct correlation dependence between them. With the episodes from 5 to 10 times per year it is recommended conducting the search for etiological factors. In connection with this it is expedient to study the effectiveness of preventive measures in the following groups of children:

1. Children, who be ill by the not complicated forms of the acute respiratory diseases < of 5 times per year, or by the complicated forms < of 3 times per year.
2. children, who be ill by the not complicated forms of the acute respiratory diseases > of 5 times per year.
3. children, who transferred the complicated forms of the acute respiratory diseases > of 3 times per year.
4. children, who suffer chronic bronchopulmonary diseases.

Preventive maintenance, as system in the broad sense of this concept, represents not only everyday, for years and by decades the adjusted views and customs (culture of family, training children, formation and maintenance at the high level of the healthy means of life), but also it rests on a number of the scientifically substantiated recommendations. Rational nourishment, optimum motoring, timely vaccine prophylaxis (for the preventive maintenance of influenza), organization of studies and leisure - is here far the incomplete enumeration of the measures, which determine the essence of the primary preventive maintenance of respiratory infections. At present relationship "preventive maintenance - therapy" is moved to the side of organization and improvement of rendering to the specialized medical aid to sick children. To the problems of preventive maintenance it is not given adequate consideration. A large quantity of the most diverse federal and regional programs they bear in essence declarative character. Unfortunately scientific studies also are conducted at the insufficient level, in the connection, with which putting into practice of various programs it does not bring the desired success or does not have lasting prospects. Attention is drawn to a large quantity, as a rule, the unfinished or unrealized projects and the programs of the medical preventive maintenance of respiratory infections. Meanwhile a quantity of programs must be maximally limited for the start in the activity of practical public health. In the majority of programs they are considered in essence the probability of known favorable effects, little attention it is given to the analysis of the probability of the assumed favorable effects. Do not undergo proper analysis the known and possible negative consequences of preventive measures, the economic characteristic of program, the duration of conducting measures, inconvenience in the implementation of program. Confirmation to that is the fact that at present do not have actually functioning long-range programs of the preventive maintenance of respiratory infections the children.

Thus, for the current situation it is characteristic:

- high morbidity by influenza and by another ORVI among the children's population;
- limitedness and (or) the asymmetry of the existing information, which is concerned the quality of various preventive programs, directed toward a decrease among the children of morbidity by influenza and other sharp respiratory virus infections;
- the absence in connection with this of the possibility to impose proper requirements on the conducted estimations of the effectiveness of various programs;
- relatively greater "space" for the especially "administrative" and "intuitive" solutions and planning the programs from the level reached.

At present in the complex of the preventive measures of the infections of the respiratory tract important role is assigned to preparations, possessing antiviral activity and immunotropic properties. The existing difficulties of their use are caused by the absence of the clear methodology of the substantiation of both the therapeutic and prophylactic advantages of one or other preparation or another and

of the economic expediency of their application. One of such preparations is Arbidol ("MASTERLEK", Russia). The conducted investigations characterize it as the antiviral means, which renders the immunotropic action (Gus'kova T.A., Glushkov R.G., 2001). Preparation is patented in 20 countries of peace.

Represented data were base for conducting of the present investigation.

3. Purpose of the study: To refine in the real practice of possibility, including economic, the applications Of arbidol in the interests of an increase in the effectiveness in the therapeutic and prophylactic measures with respect to influenza or another ORVI in children are older than 6 years.

4. Tasks of a study.

1. To estimate the preventive effectiveness Of arbidol in children.
2. to estimate the therapeutic effectiveness Of arbidol with the treatment of respiratory infections.
3. to refine the degree of safety of the application Of arbidol.
4. to explain the degree of the economic expediency of the therapeutic and prophylactic application Of arbidol.

5. Description of the preparation being investigated.

Arbidol ("MASTERLEK", Russia, registration number - RN000yyae/0y-2000 from 20.12.2000 g.) - ethyl ether 6- bromine -5 gidrooksi-1-methyl-4-dimetilaminometil-2-feniltiometil-indole-3- carbonaceous acid in the form of hydrochloride, monohydrate). The tablets, sheathed, biconvex forms from the white to the white with the kremovatym nuance color, in the cross section are visible two layers at 0.1 g., in the packing of 10 tablets. Each packing Of arbidol is supplied with information about the period of fitness and the number of party.

6. Substantiation of dosages, diagrams and duration of the application of preparation.

6.1. For preventive purposes. In the period preceding an increase in the morbidity influenza and by another ORVI to children was assigned Arbidol:

- at the age it is older from 6 to 12 years on 0.1 g, are older than 12 years of 0.2 g two times a week during three weeks; preventive course for the children from 6 to 12 years - 0.6 g. (6 tablets), for the children it is older than 12 years of -1.2 g. (12 tablets)
- in the case of contact with the patients with influenza and another ORVI - on 0.1 g (age of 6-12 years), 0.2 g. (age of older than 12 years) daily during 12 days; preventive course for the children at the age from 6 to 12 years of 1.2 g (12 tablets), at the age is older than 12 years - 2.4 g. (24 tablets); after this period continued the course (if it was interrupted) method at 0.1 g. (age of 6-12 years), 0.2 (age older than 12 years) two times a week during three weeks.

6.2. For therapeutic purposes the preparation was assigned:

- with the not complicated forms of influenza and another ORVI - 0.1 g. (age from 6 to 12 years), 0.2 g. (age of older than 12 years) of 3 times in the day during 3 days.

Course of treatment for the children from 6 to 12 years - 0.9 g. (9 tablets), it is older than 12 years - 1.8 g. (18 tablets);

- with complicated forms of influenza or another ORVI - at 0.1 g. (age from 6 to 12 years), 0.2 g. (age of older than 12 years) of 3 times in the day during 5 days, then at 0.1 g. (age from 6 to 12 years) and 0.2 g. (age of older than 12 years) in the week during 4 weeks. Course of treatment for the children from 6 to 12 years - 1.9 g. (19 tablets), it is older than 12 years - 3.8 g. (38 tablets).

7. Characteristic of sample. In a study 500 children of older than 6 years participated: the group - 250 children being investigated, who obtained Arbidol; the group of comparison - 250 children without the preventive maintenance, and also the therapy with the appearance of influenza or another ORV By arbidol. The representativeness of selective groups and the guarantee of their comparability are achieved by the random selection of children at the age of older than 6 years, in accordance with the criteria of start and exception with the use of table of the evenly distributed random numbers. The formation of groups for the preventive application Of arbidol corresponded to the "ideal" screening, which did not require special preparation with conducting of preventive it was inspection children.

8. Methodology of a study.

8.1. Study - opened, comparative. Prognostic factor - preventive and therapeutic interference (use Of arbidol).

8.2. Start and the exception of subjects.

8.3. Criteria of the start of subjects in a study.

8.3.1. Children at the age are older than 6 years.

8.3.2. Children, who be ill by the not complicated forms of the acute respiratory diseases < of 5 times per year, or by the complicated forms < of 3 times per year.

8.3.3. Children, who be ill by the not complicated forms of the acute respiratory diseases = or > of 5 times per year.

8.3.4. Children, who transferred the complicated forms of the acute respiratory diseases = or > of 3 times per year.

8.3.5. Children, who suffer the chronic diseases of the upper and (or) lower respiratory tract.

8.4. Criteria of exception. Patients were not included in a study with the presence at least of one of the enumerated criteria.

8.4.1. Individual intolerance Of "arbidol".

8.4.2. Children, by which in the previous 12 months adapted with preventive or other purpose the immunotropic, antiviral preparations, anti-influenza vaccines.

8.4.3. Participation in other studies.

8.5. Criteria of output from a study.

8.5.1. Patient could be excluded at the discretion of researcher, if that considered that the continuation of a study damages on patient.

8.5.2. The presence of medical indications or the appearance of the undesirable phenomena, which could be estimated as connected with the method Arbidol.

8.5.3. Decision of patient or parents to end its participation in a study.

8.5.4. Nonobservance by the patient of the mode of reception Of arbidol.

8.5.5. Appearance in the process of investigating the criteria of exception.

9. Duration of the participation of patients in a study - 4 months. The collection of children was finished 1 month after the start of the first child in a study.

10. Stages of the study:

- Preventive direction - frequency of the episodes of respiratory infections and their complications in the investigated groups in the course of 3 months in the period of the lift of morbidity by respiratory infections among the population;
- Therapeutic direction - (designation of preparation first 48 it is hour from the beginning of influenza or another ORVI) - on the periods of the normalization of temperature, disappearance of the symptoms of intoxication, reverse development of the clinical manifestations of disease, outcomes were expressed by measurable characteristics;
- The economic substantiation of the expediency of applying Arbidol included the study only of straight expenditures, connected with the acute respiratory diseases, by their complications, by the aggravations of basic diseases, with the cost of the preventive and therapeutic application Of arbidol. Straight expenditures were calculated by the medico- economic standards of dispensary- polyclinical and stationary aid to the patient of this category, by the established committee of public health Moscow and to prices of the drugs in the pharmaceutical network. The cost of medicines was determined on the basis of the average annual price in the pharmaceutical network taking into account a quantity of designations, course of treatment depending on the pattern of the flow of respiratory infections and their complications. Expenditures for the possible realization of project in the daily pediatric practice included besides the cost of the therapeutic and prophylactic course Of arbidol and expenditures for the simple medical services (order of the minister of public health RF from 22.12.1998 g.).

The ineffectiveness Of arbidol was defined as: the intolerance of treatment, which requires its curtailment, the development of respiratory infections, and also the progression of symptoms ORVI and their complications. Safety evaluation was conducted on the basis of the calculation of undesirable side-line phenomena and deviations of laboratory indices, taking into account the degree of their manifestation, seriousness, duration and possible connection with Arbidol.

11. Preventive maintenance and the treatment of subjects.

With a study of the preventive effectiveness Of arbidol soblyudalis' the requirements, presented in the protocol. In the case of the appearance of influenza or another ORVI with taking of therapeutic measures the researcher conducted the treatment of patient on the basis of his clinical knowledge and experience. All patients, who participate in a study, obtained according to the designation of doctor the standard treatment, directed toward decrease and elimination of the manifestations of the influenza or other sharp respiratory virus infections. The designation of the febrifugal preparations was justified. Changes in the dose, designation of new preparations or cancellation of any of them were fixed in the division the associated therapy of the individual map of patient. In this case the antiviral preparations (remantadine, etc.), used for treating of the influenza or other sharp respiratory virus infections, were not used.

12. Procedure of a study. Researcher evaluated after introductory period it does be suitable child for participation in a study. In the case of the positive solution to child was assigned preventive, and with the development of influenza or another ORVI - therapeutic the courses Of arbidol.

13. The statistical analysis of the parameters of effectiveness was conducted in children in children, who finished a study in accordance with the protocol in the absence of its significant disturbances. Are used the standard methods of statistical processing with the determination of average values, their confidence intervals and mean errors. They were calculated index I=.p1/p2) and coefficient E = (p1-p2/p1) x of 100 preventive effectivenesses Of arbidol, where r1 - frequency of morbidity in the control group; r2 - frequency of morbidity in the group of children, who obtained Arbidol. Were analyzed the primary and repeated cases of respiratory infections both with the complications and without them.

14. Results of a study.

A study is carry out in the period of the epidemic lift of morbidity by influenza and another ORVI (November 2001 - February of 2002). In the tables the 1st are given the results of the studied indices in the groups of children being investigated.

Table 1
Results of the indices in children being investigated, who be ill by the not complicated forms ORVI < of 5 times per year, by the complicated forms < of 3 times per year

Indices	Experimental group		Control group	
	Quantity	Frequency	Quantity	Frequency
Number of the observations	102		102	
Average age (years)	8.2±0.9		9.5±1.1	
Boys	58	0.57±0.03	52	0.51±0.0y9
Girls	44	0.43±0.022	50	0.49±0.014
Preventive	60	0.59±0.033	No	

maintenance by arbidol of children from 6 to 12 years				
From them not they were in the contact with sick ORVI	20	0.33±0.02		
Quantity of tablets of arbidol for the preventive maintenance	120	6 (to one child)		
Expenditures for preventive maintenance by arbidol in these children (rub)	1080	54 (to one child)		
From them they were in the contact with sick ORVI	40	0.67±0.04		
Quantity of tablets of arbidol	720	18 (to one child)		
Expenditures for preventive maintenance by arbidol in these children (rub.)	6480	162 (to one child)		
Preventive maintenance by arbidol of children is older than 12 years	42	0.41±0.026	No	
From them they were in the contact with sick	29	0.69±0.045		

ORVI				
Quantity of tablets Of arbidol	1044	36 (to one child)	No	
Expenditures for preventive maintenance By arbidol in these children (rub.)	9396	324 (to one child)		
From them not they were in the contact with sick ORVI	13	0.31±0.021		
Quantity of tablets of arbidol	156	12 (to one child)		
Expenditures for preventive maintenance by arbidol in these children (rub.)	1404	108 (to one child)		
In all expenditures for preventive maintenance by arbidol (rub.)	19404			
Expenditures for preventive maintenance by arbidol on the average (rub.)		190		
Was ill ORVI	34	0.33±0.02 *	57	0.56±0.037
Was ill ORVI at the age from 6 to 12 years	21	0.2±0.01	33	0.32±0.024
Was ill ORVI at the age of	13	0.13±0.009	24	0.24±0.017

older than 12 years				
1 time during the period of the observation	24		26	
At the age from 6 to 12 years	14			
At the age it is older than 12 years	10			
2 times during the period of the observation	10		30	
At the age from 6 to 12 years	7			
At the age it is older than 12 years	3			
3 times during the period of the observation	no		1	
Number of primary and repeated cases ORVI	44		89	
Index Of the effectiveness of the application Of arbidol	I = 89: 44 = 2.02			
Effectiveness ratio	Ye=(89-yaya):89 X 100 = 50.6%			
The not complicated forms	44		77	
Average duration of respiratory infection (days)	6.4±0.7*		9.9±1.1	
Quantity	28			

ORVI at the age from 6 to 12 years				
Quantity of tablets of arbidol to the treatment of these cases ORVI	252	9 (in one case)		
Expenditures for treatment by arbidol of these cases ORVI (rub.)	2268	81 (in one case)		
A quantity ORVI at the age is older than 12 years	16			
Quantity of tablets of arbidol to the treatment of these cases ORVI	288	18 (in one case)		
Expenditures for treatment by arbidol of these cases (rub.)	2592	162 (in one case)		
Expenditures for treatment by arbidol on the average to one observation (rub.)		48		
Expenditures for the therapeutic and prophylactic application of arbidol, on the average (rub.)		238		
Heavy flow	5	0.11±0.008 *	17	0.22±0.012
Straight	4925	985 (in one	16745	985 (in one

expenditures (rub.)		case)		case)
Average gravity	22	0.shch±0.04	41	0.53±0.048
Straight expenditures (rub.)	13464	612 (in one case)	25092	612 (in one case)
Easy flow	17	0.39±0.035 *	19	0.25±0.021
Straight expenditures (rub.)	4760	280 (in one case)	5320	280 (in one case)
Straight expenditures, in all (rub.)	23149	526 (in one case)	47157	612 (in one case)
Straight expenditures for one child of that included in a study (rub.)		226		462
Complicated forms	no		12	
Average duration of the treatment	15.4±2.2		16.7±2.8	
Acute bronchitis	no		5	
Pneumonia	no		2	
Otitis	no		4	
Others	no		1	
Stationary treatment of the not complicated forms	2	0.045±0.003	3	0.033±0.003
Expenditures for the stationary treatment of the not complicated forms ORVI (rub.)	3120	1560	4680	1560
Straight expenditures		30.5		45

for the stationary treatment of the not complicated forms to one child, included in a study (rub.)				
Stationary treatment of the complicated forms			7	0.078±0.008
Expenditures for the stationary treatment of the complicated forms (rub.)			15750	2250 (on the average in one case)
Expenditures for the stationary treatment of the complicated forms taking into account one child of that included in a study (rub.)				154
Expenditures on the average for one child, included in a study (rub.)		494.5		661
Expenditures taking into account for one child, if sample consisted of the children of older than 12 years (rub.)		558.5		661
Expenditures		431.5		661

taking into account for one child, if sample consisted of children from 6 to 12 years (rub.)				

Table 2
Results of the indices in children being investigated, who be ill by the not complicated forms ORVI > of 5 times per year.

Indices	Experimental group		Control group	
	Quantity	Frequency	Quantity	Frequency
Number of the observations	91	1	92	1
Average age (years)	7.8±0.78		9.3±0.9	
Boys	49	0.54a±0.02	54	0.59±0.024
Girls	42	0.46±0.018	38	0.41±0.016
Preventive maintenance By arbidol of children from 6 to 12 years	50	0.55±0.03	No	
From them not they were in the contact with sick ORVI	15	0.3±0.02		
Quantity of tablets of arbidol for the preventive maintenance	90	6 (to one child)		
Expenditures for preventive maintenance by arbidol in these children (rub.)	810	54 (to one child)		
From them they were in	35	0.7±0.042		

the contact with sick ORVI				
Quantity of tablets of arbidol	630	18 (to one child)		
Expenditures for preventive maintenance by arbidol in these children (rub.)	5670	162 (to one child)		
Preventive maintenance by arbidol of children is older than 12 years	41	0.45±0.02	No	
From them they were in the contact with sick ORVI	28	0.68±0.04		
Quantity of tablets of arbidol	1008	36 (to one child)	No	
Expenditures for preventive maintenance by arbidol in these children (rub.)	9072	324 (to one child)		
From them not they were in the contact with sick ORVI	13	0.32±0.021		
Quantity of tablets of arbidol	156	12 (to one child)		
Expenditures for preventive maintenance by arbidol in	1404	108 (to one child)		

these children (rub)				
In all expenditures for preventive maintenance by arbidol (rub.)	16146			
Expenditures for preventive maintenance by arbidol on the average (rub.)		177		
Was ill ORVI	57	0.63±0.045 *	70	0.'"±0.051
Was ill ORVI at the age from 6 to 12 years	30		42	
Was ill ORVI at the age of older than 12 years	27		28	
1 time during the period of the observation	46		27	
At the age from 6 to 12 years	24		16	
At the age it is older than 12 years	22		11	
2 times during the period of the observation	11		24	
At the age from 6 to 12 years	6		14	
At the age it is older than 12 years	5		10	
3 times	no		18	

during the period of the observation				
At the age from 6 to 12 years			11	
At the age it is older than 12 years			7	
More than 3 times			1	
Number of primary and repeated cases ORVI	68		133	
Index of the effectiveness of the application of arbidol	I = 133: 68 = 1.96			
Effectiveness ratio	E=(134-68):134 X 100 = 48.9%			
The not complicated forms	68		115	
Average duration of respiratory infection (days)	6.4±0.7*		11.1±0.9	
At the age from 6 to 12 years	36			
Quantity of tablets of arbidol to the treatment of these cases ORVI	324	9 (in one case)		
Expenditures for treatment by arbidol of these cases ORVI (rub.)	2916	81 (in one case)		
At the age it is older than	32			

12 years				
Quantity of tablets of arbidol to the treatment of these cases ORVI	576	18 (in one case)		
Expenditures for treatment by arbidol of these cases (rub.)	5184	162 (in one case)		
Expenditures for treatment by arbidol on the average to one observation		89		
Expenditures for the therapeutic and prophylactic application Of arbidol, on the average (rub.)		266		
Heavy flow	11	0.16±0.009 *	33	0.25±0.018
Straight expenditures (rub.)	10835	985 (in one case)	32505	985 (in one case)
Average gravity	36	0.53±0.047	60	0.45±0.038
Straight expenditures (rub.)	22032	612 (in one case)	36720	612 (in one case)
Easy flow	21	0.31±0.04 *	40	0.3±0.03
Straight expenditures (rub.)	5880	280 (in one case)	11200	280 (in one case)
Straight expenditures, in all (rub.)	38747	570 (in one case)	47157	612 (in one case)
Straight expenditures for one child of that		426		605

included in a study (rub.)				
Complicated forms	no		18	
Average duration of the treatment	16.5±3.1		17.4±2.9	
Acute bronchitis	no		9	
Pneumonia	no		3	
Otitis	no		4	
Others	no		2	
Stationary treatment of the not complicated forms	3	0.044±0.002	6	0.052±0.004
Expenditures for the stationary treatment of the not complicated forms ORVI (rub.)	4680	1560	9360	1560
Straight expenditures for the stationary treatment of the not complicated forms to one child, included in a study (rub.)		51		102
Stationary treatment of the complicated forms			11	0.12±0.01
Expenditures for the stationary treatment of the complicated			24750	2250 (on the average in one case)

forms (rub.)				
Expenditures for the stationary treatment of the complicated forms taking into account one child of that included in a study (rub.)				269
Expenditures on the average for one child, included in a study (rub.)		743		976
Expenditures taking into account for one child, if sample consisted of the children of older than 12 years (rub.)		823		976
Expenditures taking into account for one child, if sample consisted of children from 6 to 12 years (rub.)		695		976

Table 3
Results of the indices in children being investigated, who be ill by the complicated forms ORVI > of 3 times per year.

Indices	Experimental group		Control group	
	Quantity	Frequency	Quantity	Frequency
Number of the observations	25	1	30	1
Average age	7.4±0.7		8.3±0.8	

(years)				
Boys	9		17	
Girls	16		13	
Preventive maintenance by arbidol of children from 6 to 12 years	15	0.55±0.03	No	
From them not they were in the contact with sick ORVI	5			
Quantity of tablets of arbidol for the preventive maintenance	30	6 (to one child)		
Expenditures for preventive maintenance by arbidol in these children (rub.)	270	54 (to one child)		
From them they were in the contact with sick ORVI	10			
Quantity of tablets of arbidol	180	18 (to one child)		
Expenditures for preventive maintenance by arbidol in these children (rub.)	1620	162 (to one child)		
Preventive maintenance by arbidol of children is older than 12 years	10		No	

From them they were in the contact with sick ORVI	8			
Quantity of tablets of arbidol	288	36 (to one child)	No	
Expenditures for preventive maintenance By arbidol in these children (rub.)	2592	324 (to one child)		
From them not they were in the contact with sick ORVI	2			
Quantity of tablets of arbidol	24	12 (to one child)		
Expenditures for preventive maintenance by arbidol in these children (rub.)	216	108 (to one child)		
In all expenditures for preventive maintenance by arbidol (rub.)	3294			
Expenditures for preventive maintenance by arbidol on the average (rub.)		179		
Was ill ORVI	15		20	
Was ill ORVI at the age	10			

from 6 to 12 years				
Was ill ORVI at the age of older than 12 years	5			
1 time during the period of the observation	13		17	
At the age from 6 to 12 years	10			
At the age it is older than 12 years	3			
2 times during the period of the observation	2		2	
At the age from 6 to 12 years	No			
At the age it is older than 12 years	2			
3 times during the period of the observation	No		1	
Number of primary and repeated cases ORVI	17		21	
Frequency of the primary and repeated cases ORVI	0.68±0.035		0.7±0.04	
The not complicated forms	12		9	
Average duration of respiratory infection (days)	7.4±0.8 *		10.1±0.9	
At the age from 6 to 12	8			

years				
Quantity of tablets of arbidol to the treatment of these cases ORVI	72	9 (in one case)		
Expenditures for treatment by arbidol of these cases ORVI (rub.)	648	81 (in one case)		
At the age it is older than 12 years	4			
Quantity of tablets of arbidol to the treatment of these cases ORVI	72	18 (in one case)		
Expenditures for treatment by arbidol of these cases (rub.)	648	162 (in one case)		
Expenditures for treatment by arbidol on the average to one observation		52		
Complicated forms	5			
At the age from 6 to 12 years	3			
Quantity of tablets of arbidol to the treatment of these cases	57	19 (in one case)		
Expenditures for treatment by arbidol of these cases (rub.)	513	171 (in one case)		
At the age it	2			

is older than 12 years				
Quantity of tablets of arbidol to the treatment of these cases	76	38 (in some case)		
Expenditures for treatment by arbidol of these cases (rub.)	684	342 (in one case)		
Expenditures for treatment by arbidol on the average to one observation		48		
Expenditures for the therapeutic and prophylactic application of arbidol, on the average (rub.)		279		
The not complicated forms	20		9	
Heavy flow	2		2	
Straight expenditures (rub.)	1970	985 (in one case)	1790	985 (in one case)
Average gravity	10		5	
Straight expenditures (rub.)	6120	612 (in one case)	3060	612 (in one case)
Easy flow	8		2	
Straight expenditures (rub.)	2240	280 (in one case)	560	280 (in one case)
Straight expenditures, in all (rub.)	10330	516 (in one case)	5410	612 (in one case)
Straight expenditures		413		180

for one child, included in a study (rub.)				
Complicated forms	5		12	
Average duration of the treatment	17.9±3.1		19.4±3.9	
Acute bronchitis	2		4	
Pneumonia	1		2	
Otitis	2		4	
Others	no		2	
Dispensary treatment of the complicated forms	2		4	
Straight expenditures for the treatment of these patients (rub.)	3520	1760	7040	1760
On the average to one observation, included in a study (rub.)		141		234
Stationary treatment of the complicated forms	3		8	
Expenditures for the stationary treatment of the complicated forms (rub.)	6750	2250 (average in one case)	18000	2250 (on the average in one case)
Expenditures for the stationary treatment of		270		600

the complicated forms taking into account one child of that included in a study (rub.)				
Expenditures on the average for one child, included in a study (rub.)		1103		1014

Table 4
Results of the indices in children being investigated, who suffer the chronic diseases of the upper and/or lower respiratory tract.

Indices	Experimental group		Control group	
	Quantity	Frequency	Quantity	Frequency
Number of the observations	32	1	26	1
Average age (years)	10.8±0.9		9.6±0.85	
Boys	15		16	
Girls	17		10	
Chronic pathology in the inspected children	32	1	26	1
Chronic bronchitis	1	0.03±0.001	1	0.038±0.0015
Bronchial asthma	4	0.125±0.004	3	0.115±0.003
Chronic tonsillitis	10		9	
Adenoids	13		10	
Rhinitis	4		3	
Preventive maintenance by arbidol of children from 6 to 12 years	18		No	

From them not they were in the contact with sick ORVI	7			
Quantity of tablets of arbidol for the preventive maintenance	42	6 (to one child)		
Expenditures for preventive maintenance By arbidol in these children (rub.)	378	54 (to one child)		
From them they were in the contact with sick ORVI	11			
Quantity of tablets of arbidol	198	18 (to one child)		
Expenditures for preventive maintenance By arbidol in these children (rub.)	1782	162 (to one child)		
Preventive maintenance by arbidol of children is older than 12 years	14		No	
From them they were in the contact with sick ORVI	10			
Quantity of tablets of arbidol	360	36 (to one child)	No	

Expenditures for preventive maintenance By arbidol in these children (rub.)	3240	216 (to one child)		
From them not they were in the contact with sick ORVI	4			
Quantity of tablets Of arbidol	48	12 (to one child)		
Expenditures for preventive maintenance By arbidol in these children (rub.)	432	108 (to one child)		
In all expenditures for preventive maintenance By arbidol (rub.)	5832			
Expenditures for preventive maintenance By arbidol on the average (rub.)		182		
Was ill ORVI	8	0.25±0.008 *	11	0.42±0.03
Was ill ORVI at the age from 6 to 12 years	8			
1 time during the period of the observation	6		8	

At the age from 6 to 12 years	6			
2 times during the period of the observation	2		3	
At the age from 6 to 12 years	2			
Number of primary and repeated cases ORVI	12		14	
Quantity of tablets of arbidol to the treatment of these cases ORVI	228	19 (in one case)		
Expenditures for treatment by arbidol of these cases (rub.)	2052	171 (in one case)		
Expenditures for treatment by arbidol on the average to one observation		64		
Expenditures for the therapeutic and prophylactic application Of arbidol, on the average (rub.)		246		
Dispensary treatment	9		7	
Straight flow rates (rub.)	8730	970 (in one case)	9450	1350

to the treatment of the respiratory infections				
Straight expenditures for one child of that included in a study (rub.)		273		363
Stationary treatment	3		4	
Expenditures for the stationary treatment of the not complicated forms ORVI (rub.)	6750	2250 (on the average in one case)	9000	2250
Straight expenditures for stationary treatment to one child, included in a study (rub.)		211		346
Additional expenditures for the treatment of basic disease, connected with ORVI on the average to one child, included in the study		131		271
Expenditures on the average for one child, included in a study (rub.)		861		980

Represented data made it possible to answer the number of the questions, which were set in the study:

- The samples of experimental and control groups are practically uniform in the sex, the age, the frequency of respiratory infections, the diagnoses during the period during the year, which precedes a study.
- Undesirable phenomena during the application Of arbidol it was registered not.
- As a result of the analysis of basic measure of preventive effectiveness Arbidol (number of episodes of respiratory infections in 3 months of observation taking into account one child) is established that the most explicit effect is obtained in children 1 and 2 groups (index of effectiveness in comparison with the control in these groups it respectively composed 2.02 and 1.96). The use Of arbidol in children of 3 groups, whose respiratory infections usually flow with the complications, practically did not influence the frequency of the appearance of respiratory infections (0.68±0.035 in the experimental group and 0.7±0.04 in the control room, R>0.05). Among the inspected children with the chronic pathology of respiratory circuit is noted reliable reduction in the frequency of the episodes of acute respiratory diseases (0.25±0.08 in the experimental group and of 0.42±0.0e in the control room, R<0.05)
- One of the important is indicative effectiveness Arbidol in connection with the studied conditions it appeared shortening the duration of the flow of the not complicated respiratory infections in the experimental groups in comparison with the control (1 group respectively of ',4±0."of days and 9.9±1.1 of days, R<0.05; 2 groups, respectively 6.4±0.7 of days and 11.1±0.9 of days, R<0.05; 3 groups, respectively 7.4±0.8 of days and 10.1±0.9 of days, R<0.05). Very important evidence of the therapeutic and prophylactic application Of arbidol was the easier flow of respiratory infections and reduction in the risk of the development of complications, especially among the inspected children 1 and 2 experiment groups.
- The application of arbidol for the purpose of the preventive maintenance of respiratory infections and their complications, and also treatment of emergent ORVI is effective under the ideal conditions for the selected categories of children. Ideal effectiveness is characterized by the limitations of the children participating in the study only by those, who completely soblyudayet the order of entire therapeutic and prophylactic course.
- The controlled study showed that the therapeutic and prophylactic application Of arbidol can be actually effectively for the analogous patients.
- The analysis of obtained data made it possible to make economic nature. Expenditures on the average for one child can be reduced as a whole on all groups from 852 to 693 rubles, i.e., 1.2 times the optimization of expenditures is characterized by an increase in the expenditures for preventive maintenance due to the application Of arbidol, but as a result general expenditures due to other components are decreased. In particular are reduced expenditures for rendering to dispensary- polyclinical aid, hospitalizations, drugs, used for treating the acute respiratory diseases, their complications, connected with the treatment of aggravations against the background ORVI of basic diseases.

Conclusion

Obtained data clinically base the expediency of using Arbidol with the therapeutic and prophylactic purpose in the categories of children being investigated and are the basis of the guarantee of a data base for further estimated studies in the real practice. The meaningful result of a study was the farmakoekonomicheskoye substantiation of the advantages of the use Of arbidol in the complex of the

measures, directed toward reduction in the morbidity by respiratory infections and improvements in their outcome among the children's population. The conducted investigation makes it possible more tselenapravlenno to estimate the distribution of the resources, connected with the preventive maintenance of respiratory infections in children. The given clinical and economic proofs it is expedient to use for the substantiation of the start Of arbidol with the planning, the development and the implementation of federal and regional therapeutic and prophylactic programs for preventive maintenance and treatment of the influenza and other sharp respiratory virus infections in children.

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