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А. Шустер
«___» апреля 2002 г.

УТВЕРЖДАЮ
Начальник 736 центра санитарно-эпидемиологического надзора МО РФ – заместитель главного государственного санитарного врача МО РФ

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«30» апреля 2002 г.

IT IS AGREE OND
The Director-General
PRIVATELY HELD COMPANY OF "MASTERLEK"

A. Schuster
"___" of April of 2002.

I ASSERT
Chief of 736 centers of the sanitary epidemiological supervision MO RF - the deputy of the main state sanitary doctor MO RF

V. Shumilov
"___" of April of 2002.

REPORT
on the program of the estimation of the effectiveness of the medicine Of "arbidol" in the preventive maintenance and the treatment of influenza and sharp respiratory virus infections in soldiers.

Moscow
2002

General information

Sponsor
PRIVATELY HELD COMPANY OF "MASTERLEK". 129839, Moscow, ul. Gilyarovskogo, 57. Telephone 248-12-27, 248-12-48, fax 956-75-47.
F.I.O. and the post of the person, who signs from the side of sponsor the protocol of a 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 - professor of braziers Boris Lvovich.

Medical establishments, which carry out the study:
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Scientific leader - cornice Anatoliy Fedorovich, the doctor of medical sciences.

Researchers: Lobastov S.P., the chief of the epidemiological division of center;
Shevtsov V.A., the candidate of medical sciences, the section head of the separately dangerous infections of center.

Work was carried out through the program, affirmed by the chief of 736 centers of sanitary-epidemiological supervision MO RF - by deputy main state sanitary doctor MO RF and matched with THE PRIVATELY HELD COMPANY "MASTERLEK".

Substantiation of the study

Influenza and other sharp respiratory virus infections comprise not less than 23-25% in the structure of the entire morbidity of soldiers, but in the structure of infectious morbidity in the portion of influenza and another ORVI it is yearly 63-70%.

The problem of acute respiratory diseases for the military associations with the high risk of the development of the infections of the respiratory tract is especially urgent. In particular, in the newly formed parts, training centers, parts from the composition of united groupings of troops in the local military conflicts and the peacemaking forces. Under the contemporary conditions respiratory diseases are predominantly the infections of those organized associations, where the conditions determine the activity of the mechanism of the transfer of agents and the heterogeneity of the composition of people. As the starting gear of the making more active of epidemic process with ORZ in the military associations serves their renovation. As proof serve lifts in the annual dynamics of morbidity connected with the calls in VS RF.

The traditional preventive measures, conducted by command, by medical and other services for the sanitation of the working conditions and way of life of soldiers, normalization of their status of nourishment are up to now the leading direction of the preventive maintenance of influenza and another ORVI in the troops. However, elimination or reduction in the negative influence of these and some other social, health and hygiene, climatic factors of the development of epidemic process is not always possible.

The preventive maintenance of the infections of the respiratory tract provides for the use of specific and unspecific means of medical protection. In the epidemic of influenza and another ORVI in the association it falls ill to 20 - 25% people. In the structure ORVI even during the epidemic the portion of influenza comprises to 30%; therefore the application of anti-influenza vaccines in the army associations because of the prevalence of the infections, caused by the agents not of influenza etiology, is not sufficiently effective. The substantial advances in the immunology in many respects contributed to the revision of previous ideas about the possibilities of the primary preventive maintenance of respiratory infections. In this case special position is assigned to preparations, possessing antiviral activity and immunotropic properties. Among the latter most promising are the preparations - inductors of endogenous interferon, an increase in concentration of which in the blood and the secrets prevents the development of virus infections. The existing difficulties of introducing this direction are caused by the absence of the clear methodology of the selection of preparation, their preventive and therapeutic use in the military associations especially in the period of their formation.

The appearance of sharp respiratory infections is caused by the complex of cofactors. For the doctors the calculation of these factors is important from three basic clinical directions: preventive maintenance, diagnostics and treatment. Is obvious the need for economic analysis, first of all, in order to determine the effectiveness of financing various preventive measures on a wide scale.

Thus, at present extremely urgent appears the continuous search for the preparations, which combine in themselves both the antiviral activity, and properties, directed toward an increase in the stability of organism toward the respiratory virus infection.

One of such preparations is Arbidol ("Masterlek", Russia) - 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 cream nuance color, in the cross section are visible two layers, on 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.

The conducted investigations characterize Arbidol as the antiviral means, which renders immunotropic action. Preparation is patented in 20 countries of peace. Registration number - RN№00014e/01-2000 from 20.12.2000 g

A study on the study of the preventive and therapeutic effectiveness of the preparation Of arbidol in the period of the seasonal lift of morbidity by influenza and by sharp respiratory virus infections in the organized association in the period of its formation is carry out by the specialists of 736 centers of the sanitary-epidemiological supervision of Defense Ministry RF in 65 interspecies regional training center of troops of connection. The following criteria of evaluation of the preparation are assumed as its basis:

1. Effectiveness - did prove preparation its effectiveness during the application under the "ideal" conditions, i.e., with the clinical tests.
2. degree of safety - does have Arbidol any side effects, they are acceptable and controlled.
3. effectiveness of application - does act preparation under the conditions for standard application, i.e., in the real practice.
4. economic effectiveness - is the therapeutic and prophylactic application of arbidol the effective method of the expense of resources.

Purpose of the study

Introduction of the formalized procedures of the commensuration of results and expenditures during the application of arbidol for preventive maintenance and treating the acute respiratory diseases in soldiers in the period of the formation of the military associations.

Tasks of the study:

1. To estimate in the real practice the preventive and therapeutic effectiveness of arbidol with the influenza or another ORVI in soldiers. In particular, to explain the probability of the influence of the use of arbidol on the frequency of respiratory infections in soldiers, on the gravity of the flow of respiratory infections and development of complications.
2. development of the possible side-line action of preparation.
3. to determine the economic expediency of the therapeutic and prophylactic application of arbidol.
4. to base the "usefulness" of the use of preparation of arbidol in the counter epidemic practice of armed forces RF as the preventive and therapeutic means with the respiratory infections in soldiers.

Material and the methods of the study

In a study the cadets of training subdivision (clinically healthy people) at the age of 18-22 years, which obtained information about the conducted study and confirmed agreement about the participation in it, participated.

Soldiers were not included in a study with the presence at least of one of the enumerated criteria:
- the individual intolerance of arbidol;
- application with preventive or other purpose in the previous 12 months of immunotropic, antiviral preparations, anti-influenza vaccines.

The association being investigated was formed in the period from 25 November through 27 December from those, who arrived, in essence, from the provincial and the district it was municipal

the center section of Russia (Tver, Kaluga, Lipetsk, Voronezh and Kurskaya districts).

The estimation of effectiveness was accomplished in the medical and economic aspects on the following criteria:
- preventive effectiveness - frequency of influenza or another ORVI in the groups in the course of 3 months being investigated;
- therapeutic effectiveness - periods of the normalization of temperature and disappearance of the symptoms of intoxication, reverse development of clinical data, normalization of the laboratory indices, which testify about the activity of process, and also the duration of treatment;
- expenditures were designed for:
1. preventive application Of arbidol (course dose of 1.2 g.);
2. treatment By arbidol (course dose of 1.8 g), beginning of treatment first 48 it is hour from the beginning of influenza or another ORVI;
3. treatment of respiratory infections and their complications on the established standards in the armed forces RF (cost of one accommodation-day in the medical aid station and the hospital), the cost of medicinal therapy.

Ineffectiveness was defined as the intolerance of treatment, which requires its curtailment, and also the progression of symptoms ORVI and their complications.

In a study 800 soldiers were included: the group - 400 soldiers being investigated, who obtain Arbidol with the preventive purpose; the group of comparison - 400 soldiers without the drug preventive maintenance.

The representativeness of selective groups and the guarantee of their comparability are achieved by the random selection of the groups of soldiers with the use of table of the evenly distributed random numbers and by the uniformity of contingent, conditions of its arrangement, nourishment and military labor.

The man is accepted as the unit of selection, for the basis of sample - personnel rosters of subdivision.

To each group the list of the persons, begun to operate in a study, on the form, is comprised indicated in the application.

Medical observation of the persons of experimental and control groups was accomplished constantly, including during entire period of the delivery of preparation. All illnesses with the defeat of the upper respiratory tract were considered in the period of observation. The information about the diseases was brought in in that corresponding to the graph of the list of experimental or control group.

Observation was conducted in the period from 30 December, 2001, through 1 April, 2002, the including seasonal lift of morbidity ORZ.

For the fulfillment of work are used the standard methods of statistical processing with the determination of average values, their confidence intervals and mean errors. Statistical analysis of the results is carry out with the use of parametric and nonparametric methods of study. For the estimation epidemiological of effectiveness is also used the index (I) and the coefficient (E) of the effectiveness:

$I = p1/p2$, $E = ((p1-p2)/.p1) * 100$.
where p1 - index of morbidity in the control group; p2 - index of morbidity in the group of those, who obtained Arbidol.

The integrated assessment of the therapeutic and prophylactic advantage Of arbidol conducted with the aid of the computer program the "supports of decision making (Decision Support Systems)" OF PRINN "(Piyavskiy S.A., 1996 g.)

Results of the study

A study is carry out in the period of the epidemic lift of morbidity by influenza ORVI, also, in the territory Moscow and Moscow region. According to the data of the center of ecology and epidemiology of the influenza OF NII - SCIENTIFIC RESEARCH INSTITUTE virology OF AMN RF the morbidity was connected with the circulation of viruses of the type A2 (N.EN2) and in; the preferred circulation of the virus of influenza v was noted.

For studying the action of preparation for preventive purposes in the period, which precedes an increase in the morbidity influenza and by another ORVI, by soldiers, who corresponds to the criteria of start, was assigned Arbidol on 0.2 g two times a week during three weeks; preventive course -1.2 g (12 tablets).

The diary of researcher was brought to each sick person. Was analyzed the morbidity of soldiers with the primary diagnosis ORVI both with the complications (acute bronchitis, sharp pneumonia) and without the complications. The information about the morbidity in the control and experimental groups is represented in Table 1.

Table 1.
Influence of the preparation Of arbidol on the level of morbidity by influenza and ORVI.

Quantity	It fell ill in all	It was treated stationarily		Level of morbidity (%O)	Error of the average	Index of the effectiveness	Effectiveness ratio
		In the med. point	In the military hospital				
Experimental	400	108	96	12	270±22	25	1.33
Control room	400	144	124	20	360±24		

The level of morbidity among those, who assumed Arbidol, composed 270±22 ‰ , and in the control group - e60±24 ‰ (r<0.05). The application Of arbidol contributed to a decrease in the level of morbidity 1.33 times in comparison with the control group.

The comparison of the number complicated of the forms of influenza and ORVI (table 2) showed that among those, who assumed preparation with the preventive purpose, are registered 12 similar cases. In the control group of such cases there were 20. I.e., the preventive application Of arbidol decreased the number of complicated cases in comparison with the control group 1.66.

Table. 2
Influence of the preparation Of arbidol on a quantity of complications after the previous disease by influenza and ORVI.

Group	Quantity of the persons	Number of the complicated cases	
		the absolute number	%

Experimental	400	12	3
Control room	400	20	5

For the purpose of retrospective diagnostics of influenza and ORVI in 80 people from the experimental and the control room of groups is carry out a serological study of paired sera (RNGA, RTGA) in the dynamics (table 3). It is established that also the number of latent forms ORVI was 1.3 times less in the experimental group in comparison with the control.

Table 3
Results of serological studies of paired sera to the respiratory viruses.

Group	Quantity	It is revealed the latent forms					Effectiveness ratio	Index of the effectiveness
		In all	Including caused by the agents of the influenza			Level zabolevaemosti (%o)		
			Ay	A2	In			
Experimental	80	10	5	3	2	127	1.28	21.8
Control room	80	13	5	6	2	162.5		

For studying the action of preparation for therapeutic purposes with the appearance of the not complicated forms of influenza and another ORVI was assigned the preparation on 0.2 g of 3 times in the day during 3 days; the course of treatment - 1.8 g (18 tablets).

Patients with the not complicated form of respiratory infection were treated in the medical aid station, but with the complicated forms ORVI - in military hospital 1586 (g. it was Podolskiy).

Patients with the not complicated forms ORVI were divided into four groups (table 4).

Table 4
Groups of patients with the not complicated forms ORVI.

№№gruppy	Criteria of the selection		Quantity in the group	
1	Was obtained Arbidol with the preventive purpose	Was obtained Arbidol For The treatment	48	96
2		Were not obtained Arbidol for the treatment	48	
3	Were not obtained Arbidol with the preventive purpose	Was obtained Arbidol For The treatment	62	124
4		Were not obtained Arbidol for the treatment	62	

For an improvement in the uniformity of groups adapted the method of stratification randominizatsii.

From 6 possible versions the comparisons are selected with 4. Is in particular carry out the comparison of the studied indices between 1 and 2. 1 and 3. 2 and 4. 3 and 4 groups. The clinical characteristic of patients and the effectiveness of therapeutic measures in different groups are represented in tables 5,6,7,8.

Table 5
The characteristic sick ORVI (the not complicated forms - 3 and of 4 groups), which did not obtain Arbidol with the preventive purpose (n -124).

Symptoms	Qualitative characteristic	They obtained for the treatment (n -62)	They did not obtain for the treatment (n -62)	Authenticity level
Symptoms of the intoxication				
Chill	No	0.14	0.16	
	Moderately expressed	0.68	0.64	
	Expressed	0.18	0.16	
	Duration	1.42±0.16	2.40±0.34	r<0.01
Temperature	No	0.16	0.16	
	Subfebrile	0.32	0.4	
	Febrile	0.52	0.44	
	Duration	2.21±0.17	4.27±0.28	r<0.01
The headache	No	0.22	0.16	
	Moderated	0.59	0.48	
	Expressed	0.19	0.36	
	Duration	1.66±0.16	2.5±0.37	r<0.05
Pains in the muscles	Yes	0.31	0.25	
	No	0.69	0.75	
	Duration	1.0±0.12	1.27±0.22	
Pains in the joints	Yes	0.25	0.2	
	No	0.75	0.8	
	Duration	0.9±0.12	1.41±0.23	r<0.05
Weakness	No	0.24	0.18	
	Moderated	0.67	0.64	
	Expressed	0.09	0.18	
	Duration	1.97±0.17	3.09±0.33	r<0.01
Nausea	Yes	0.12	0.09	
	No	0.88	0.91	

	Duration	0.05±0.03	0.18±0.08	r<0.05
Signs of the defeat of the upper divisions of the respiratory circuit				
Head cold	No	0.09	0.15	
	Moderately expressed	0.45	0.5	
	Expressed	0.54	0.35	
	Duration	4.02±0.28	3.72±0.63	
Pain in the throat	Yes	0.53	0.48	
	No	0.47	0.52	
	Duration	2.47±0.17	3.40±0.28	r<0.01
Hyperemia of the opening	Yes	0.58	0.6	
	No	0.42	0.4	
	Duration	4.80±0.20	6.40±0.57	r<0.01
Cough	No	0.19	0.15	
	Moderately expressed	0.46	0.5	
	Expressed	0.35	0.35	
	Duration	3.97±0.34	6.68±0.80	r<0.01
Stationary treatment	Days	6.40±0.31	8.95±0.67	r<0.01

As can be seen from given data, the duration of fever and other manifestations of intoxicating syndrome (indisposition, a chill, headache and other.) in the soldiers of control group, who obtained for the treatment ORVI Of arbidol, it were reduced 1.3-1.8 in comparison with those, who obtained Arbidol either for the preventive maintenance or for the treatment; the periods of a stay in the medical aid station were reduced 1.4.

Table 6
The characteristic sick ORVI (the not complicated forms - 1 and of 2 groups), which obtained Arbidol with the preventive purpose (n -96)

Symptoms	Qualitative characteristic	They obtained for the treatment (n -48)	They did not obtain for the treatment (n -48)	Authenticity level
Symptoms of the intoxication				
Chill	No	0.12	0.13	
	Moderately expressed	0.64	0.61	
	Expressed	0.24	0.26	
	Duration	0.77±0.14	2.12±0.48	r<0.01
	No	0.11	0.13	
	Subfebrile	0.37	0.40	

Temperature	Febrile	0.52	0.47	
	Duration	1.29±0.1	e.56±0.e6	r<0.01
The headache	No	0.19	0.17	
	Moderated	0.58	0.65	
	Expressed	0.23	0.18	
	Duration	0.68±0.16	1.94±0.42	r<0.01
Pains in the muscles	Yes	0.22	0.20	
	No	0.78	0.80	
	Duration	0.16±0.1	0.68±0.24	r<0.05
Pains in the joints	Yes	0.16	0.18	
	No	0.84	0.82	
	Duration	0.0e±0.0e	0.75±0.25	r<0.01
Weakness	No	0.23	0.22	
	Moderated	0.59	0.63	
	Expressed	0.18	0.15	
	Duration	1.51±0.21	2.94±0.42	r<0.01
Nausea	Yes	0.10	0.08	
	No	0.90	0.92	
	Duration	0.03±0.03	0.125±0.125	
Signs of the defeat of the upper divisions of the respiratory circuit				
Head cold	No	0.12	0.14	
	Moderately expressed	0.51	0.56	
	Expressed	0.37	0.30	
	Duration	3.45±0.32	5.62±0.53	r<0.01
Pain in the throat	Yes	0.46	0.50	
	No	0.54	0.50	
	Duration	1.38±0.16	2.75±0.31	r<0.01
Hyperemia of the opening	Yes	0.44	0.46	
	No	0.56	0.54	
	Duration	3.70±0.29	6.56±0.43	r<0.01
Cough	No	0.22	0.16	
	Moderately expressed	0.48	0.53	
	Expressed	0.30	0.31	
	Duration	3.0±0.40	5.68±0.85	r<0.01
Stationary treatment	Days	5.58±0.29	8.75±0.50	r<0.01

In the group of soldiers, who obtained Arbidol both with the preventive purpose, and for the

treatment, the duration of fevers and other manifestations the intoxications decreased 1.8 - 3 in comparison with the group of comparison (soldiers, who obtained Arbidol only for the preventive maintenance); the periods of a stay in the medical aid station were reduced 1.6.

Table 7
Characteristic sick ORVI (the not complicated forms - 1 and of 3 groups), obtained Arbidol for the treatment.

Symptoms	Qualitative characteristic	They obtained for the treatment (n -48)	They did not obtain for the treatment (n -62)	Authenticity level
Symptoms of the intoxication				
Chill	No	0.12	0.14	
	Moderately expressed	0.64	0.68	
	Expressed	0.24	0.18	
	Duration	0.77±0.14	1.42±0.16	r<0.01
Temperature	No	0.11	0.16	
	Subfebrile	0.37	0.32	
	Febrile	0.52	0.52	
	Duration	1.29±0.1	2.21±0.17	r<0.01
The headache	No	0.19	0.22	
	Moderated	0.58	0.59	
	Expressed	0.23	0.19	
	Duration	0.68±0.16	1.66±0.16	r<0.01
Pains in the muscles	Yes	0.22	0.31	
	No	0.78	0.69	
	Duration	0.16±0.1	1.0±0.12	r<0.05
Pains in the joints	Yes	0.16	0.25	
	No	0.84	0.75	
	Duration	0.03±0.03	0.9±0.12	r<0.01
Weakness	No	0.23	0.24	
	Moderated	0.59	0.67	
	Expressed	0.18	0.09	
	Duration	1.51±0.21	1.97±0.17	
Nausea	Yes	0.10	0.12	
	No	0.90	0.88	
	Duration	0.03±0.03	0.05±0.03	
Signs of the defeat of the upper divisions of the respiratory circuit				
	No	0.12	0.09	

Head cold	Moderately expressed	0.51	0.45	
	Expressed	0.37	0.54	
	Duration	3.45±0.32	4.02±0.28	
Pain in the throat	Yes	0.46	0.53	
	No	0.54	0.47	
	Duration	1.38±0.16	2.47±0.17	r<0.01
Hyperemia of the opening	Yes	0.44	0.58	
	No	0.56	0.42	
	Duration	3.70±0.29	4.80±0.20	r<0.01
Cough	No	0.22	0.19	
	Moderately expressed	0.48	0.46	
	Expressed	0.30	0.35	
	Duration	3.0±0.40	3.97±0.34	r<0.05
Stationary treatment	Days	5.58±0.29	6.40±0.31	r<0.05

As can be seen from given data, reliably was reduced the duration of the symptoms of intoxication (chill, headache, indisposition, pain in the muscles and the joints), and also the duration of the symptoms of the defeat of the upper respiratory tract and the periods of a stay in the medical aid station among the soldiers, preliminarily obtained Arbidol for preventive purposes.

Table 8
Characteristic sick ORVI (not complicated forms of 2 and 4 groups), which did not obtain Arbidol for the treatment.

Symptoms	Qualitative characteristic	They obtained for the treatment (n -48)	They did not obtain for the treatment (n -62)	Authenticity level
Symptoms of the intoxication				
Chill	No	0.13	0.16	
	Moderately expressed	0.61	0.64	
	Expressed	0.26	0.20	
	Duration	2.12±0.48	2.40±0.34	
Temperature	No	0.13	0.06	
	Subfebrile	0.40	0.40	
	Febrile	0.47	0.44	
	Duration	3.56±0.36	4.27±0.28	
	No	0.17	0.16	
	Moderated	0.65	0.48	

The headache	Expressed	0.18	0.36	
	Duration	1.94±0.42	2.5±0.37	
Pains in the muscles	Yes	0.20	0.25	
	No	0.80	0.75	
	Duration	0.68±0.24	1.27±0.22	r<0.05
Pains in the joints	Yes	0.18	0.20	
	No	0.82	0.80	
	Duration	0.75±0.25	1.41±0.и	r<0.05
Weakness	No	0.22	0.18	
	Moderated	0.63	0.64	
	Expressed	0.15	0.18	
	Duration	2.94±0.42	3.09±0.33	
Nausea	Yes	0.08	0.09	
	No	0.92	0.91	
	Duration	0.125±0.125	0.18±0.08	
Signs of the defeat of the upper divisions of the respiratory circuit				
Head cold	No	0.14	0.15	
	Moderately expressed	0.56	0.50	
	Expressed	0.30	0.35	
	Duration	5.62±0.53	3.72±0.63	r<0.05
Pain in the throat	Yes	0.50	0.48	
	No	0.50	0.52	
	Duration	2.75±0.31	3.40±0.28	
Hyperemia of the opening	Yes	0.46	0.60	
	No	0.54	0.40	
	Duration	6.56±0.43	6.40±0.57	
Cough	No	0.16	0.15	
	Moderately expressed	0.53	0.50	
	Expressed	0.31	0.35	
	Duration	5.68±0.85	6.68±0.80	
Stationary treatment	Days	8.75±0.50	8.95±0.67	

With the comparison of the groups of soldiers, which did not obtain Arbidol for the treatment, reliable differences it is not obtained.

Safety evaluation was carried out via the calculation of undesirable side-line phenomena and deviations of laboratory indices; was taken into consideration the degree of their manifestation, duration and possible connection with Arbidol. All patients, who received as the minimum one dose Of arbidol and having safety evaluation, are included in the analysis of safety. Safety evaluation

included clinical and laboratory estimation. In the period of a study in the subjects, that received Arbidol, not it was revealed unfavorable and side reactions.

Obtained data make it possible to speak about the sufficiently expressed protection In arbidol of young people of masculine sex from the morbidity by sharp respiratory infections, in this case the morbidity statistically reliably is reduced. The multiplicity of reduction in the morbidity ORZ can be evaluated into 1.33, i.e., during the application Of arbidol 25% (effectiveness ratio) of people they proved to be protected from the acute respiratory disease.

Economic estimation was conducted during the comparative study of the expenditures of the following alternatives:
1. soldiers, who obtained Arbidol with preventive and therapeutic (in the case of the appearance of influenza and another ORVI) purpose.
2. soldiers, who obtained Arbidol only with the preventive purpose.
3. soldiers, who obtained Arbidol only with the therapeutic purpose.
4. soldiers, who did not obtain Arbidol.

Cost analysis is represented in Table 9.

Table 9.
Comparative expenditures (rub.) to the therapeutic and prophylactic measures in the studied groups to one soldier.

Expenditures	Experimental group		Control group	
	Arbidol (profilaktika+lecheniye of the uncomplicated forms ORVI)	Arbidol (preventive maintenance)	Arbidol (treatment of the not complicated forms ORVI)	Not obtained Arbidol
To the preventive maintenance By arbidol	T1 x c1/a=108 rubles		no	
To the treatment of the not complicated forms ORVI with the application Of arbidol	N2 (T2 x c1/a +.Ch2 X r1+ C3): N1 = 100.6 rubles		N4(.T2 x c1/a+.c2 x r3+.c5):.n8=151 the ruble	
To the treatment of the not complicated forms ORVI without Arbidol		N3 (.C2xR2+.C4): N1=133 ruble		N5(.C2 x r4+.c6):.n8 = of 183 rubles
Treatment of the complications of influenza	N6 (C7xR5+.C8): N1 = 82 rubles		N7(.C7 x r6+.c9):.n8 = of 185 rubles	

and another ORVI				
ALTOGETHER	290.6 rubles	323 rubles	336 rubles	368 rubles

T1 - quantity of tablets of arbidol to the preventive course (12 tablets);
S1- the cost of the packing of arbidol (90 rubles);
And a quantity of tablets of arbidol in one packing (10);
T2 - quantity of tablets of arbidol to the course of treatment ORVI, of 18 tablets (162);
N1 - the number of observations (400 - 48 = 352);
N2- a quantity of patients with the not complicated forms ORVI, which obtained preventive maintenance and treatment by arbidol (48);
N3 - quantity of patients with the not complicated forms of influenza and another ORVI, which obtained preventive maintenance, but which did not obtain treatment by arbidol (48);
N4 - quantity of patients with the not complicated forms of influenza and another ORVI, which did not obtain preventive maintenance, but which obtained treatment by arbidol (62);
N5 - quantity of patients with the not complicated forms of influenza and another ORVI, which did not obtain preventive maintenance and treatment by arbidol (62);
N6 - quantity of patients with the complicated forms of influenza and another ORVI, which obtained preventive maintenance by arbidol (12);
N7 - quantity of patients with the complicated forms of influenza and another ORVI, which did not obtain preventive maintenance by arbidol (20);
N8 - number of observations (400-62=338);
R1 - average duration of the treatment sick ORVI, which obtained preventive maintenance and treatment by arbidol (5.58 days);
R2 - average duration of the treatment of patients by the not complicated influenza and by another ORVI, which obtained preventive maintenance, but which did not obtain treatment by arbidol (8.75 days);
R3 - average duration of the treatment of patients with the not complicated influenza and another ORVI, which did not obtain preventive maintenance, but which obtained treatment by arbidol (6.4 days);
R4 - average duration of the treatment of patients with the not complicated influenza and another ORVI, which did not obtain preventive maintenance and treatment by arbidol (8.95 days);
R5 - average duration of the treatment of patients with the complicated forms of influenza and another ORVI, which obtained preventive maintenance by arbidol (17 days);
R6 - average duration of the treatment of patients with the complicated forms of influenza and another ORVI, which did not obtain preventive maintenance by arbidol (20 days);
S2 - expenditures for one accommodation-day in the medical aid station (86 rubles);
Se - average expenditures for the medicinal therapy ORVI in the medical aid station in sick, obtained Arbidol for the preventive maintenance and treatment (96 rubles);
S4 - average expenditures for the medicinal therapy ORVI in the medical aid station, obtained Arbidol only for the preventive maintenance ORVI (226 rubles);
S5 - average expenditures for the medicinal therapy ORVI in the medical aid station in sick, obtained Arbidol only for the treatment (110 rubles);
S6 - average expenditures for the medicinal therapy ORVI in the medical aid station in sick not obtained Arbidol (231 ruble);
S7- expenditures for one accommodation-day in the hospital (120 rubles);
S8 - average expenditures for the medicinal therapy of the complications of influenza and ORVI in sick, obtained Arbidol with the preventive purpose (408 rubles);
S9 - average expenditures for the medicinal therapy of the complications of influenza and another ORVI in patients, who did not obtain Arbidol with the preventive purpose (726.5 rubles).

The represented calculations showed that the expenditures among the soldiers of the first group proved to be 1.1 times less in comparison with the expenditures in the second group, 1.16 times it is less in comparison with the expenditures in the third group and 1.27 times in comparison with

the fourth group.

It is necessary to note that in spite of reliable statistical differences in the studied groups, the criterion evaluation of therapeutic and prophylactic measures are characterized to one degree or another by uncertainty. In connection with this the adoption from the represented alternatives of different solutions is not excluded.

For increasing the informativeness of the conducted investigation was used the method of the computer multifactor estimation of decision making in the conditions of uncertainty ("PRINN"), which was called soak (to make it possible) to maximally fully reflect the objectively obtained in a study initial information. "PRINN" from the positions of decision making, differ significantly from other methods (the "guaranteed result" of Wald, the "smallest regret" of Savage, the "weighted mean estimation" of Laplace, the extreme "optimism", multiplicative, "SELECTION", "DEMAND", "ELECTRAS P", etc.). This explains by the fact that in the method OF "PRINN" are programmed in the form of special mathematical algorithms the standard methods of the calculation of uncertainty, with the maximum accuracy the reflecting permissible methods of its calculation. With the use BY "PRINN" for the comparison of different alternatives of therapeutic and prophylactic measures were determined the possible versions of the solutions, the enumeration of the studied criteria (table 10), their characteristic (qualitative or quantitative) the desirable direction of a change in the criteria (maximum, minimum), the importance of each of them (less important criteria carried to 1 group, more important - to group 2, even more important - to group 3). The integral (weighted mean) index of the usefulness of the use of one or other version, was calculated. To higher index corresponded the more optimum version of the solution with this level of knowledgeability.

Table 10.
Integral index of the "usefulness" of therapeutic and prophylactic measures with the examination of the alternatives of decision making.

Criterion	Type of the criterion	Direction of the optimization	Versions of the solutions			
			Arbidol (profilaktika+lecheniye)	Arbidol (preventive maintenance)	Arbidol (treatment)	Therapeut and prophylact measures without Arbidol
Frequency (%) of the respiratory infections	kolich	min	27		36	
Frequency (%) of the complicated forms of the respiratory infections	kolich	min	3		5	
Duration of treatment in the hospital (days)			17		20	
Duration of the symptoms of intoxication (days)						
Chill	kolich	min	0.77	2.12	1.42	2.4

Increase in the temperature	kolich	min	1.29	3.56	2.21	4.27
The headache	kolich	min	0.68	1.94	1.66	2.5
Pains in the muscles	kolich	min	0.16	0.18	1	1.27
Pains in the joints	kolich	min	0.03	0.75	0.9	1.41
Weakness	kolich	min	1.51	2.94	1.97	3.09
Nausea	kolich	min	0.03	0.125	0.05	0.91
Duration it is indicative the defeat of the upper divisions of respiratory circuit (days)						
Head cold	kolich	min	3.45	5.62	4.02	3.72
Pain in the throat	kolich	min	1.38	2.75	2.47	3.4
Hyperemia of the opening	kolich	min	3.7	6.56	4.8	6.4
Cough	kolich	min	3.0	5.68	3.97	6.68
Duration of treatment in the medical aid station (days)	kolich	min	5.58	8.75	6.4	8.95
Expenditures (rub.)	kolich	min	290.6	323	336	368
Integral index of usefulness (%)			98	58	39	8

Represented advantages of the therapeutic and prophylactic application Of arbidol in comparison with the different versions (respectively into 1.7; 2.5 and 12.2 times) are called to draw attention to the clinical and economic expediency of applying Arbidol both with the preventive purpose in soldiers in the period of the high risk of the appearance of respiratory infections (period of shaping of the military associations) and for treating of influenza and another ORVI in the case of their appearance.

Conclusion

Use in the real practice of the developed positions on an improvement in the quality of preventive maintenance and treatment of sharp respiratory infections with the use of arbidol makes it possible to decrease morbidity, to increase the effectiveness of therapeutic measures and to optimize the expenditures, connected with the acute respiratory diseases in soldiers.

Conclusions and the proposal:
1. conducted epidemiological investigation showed that the use of arbidol with the preventive purpose makes it possible to decrease morbidity by the manifestnymi forms of influenza and another ORVI 1.33 times, and also by low-symptom forms (according to the results of serological

reactions) 1.66 times.
2. preventive application of arbidol gives possibility in the case of the appearance of influenza and another ORVI to reduce gravity of the course of disease and quantity of complications.
3. best results are obtained in the patients with the respiratory infections, which obtained Arbidol both with the preventive and with the therapeutic purpose.
4. preparation is transferred well and does not have contra-evidence.
5. carried out analysis showed the economic expediency of applying Arbidol due to reduction in the expenditures for the treatment both of the not complicated and complicated forms of respiratory infections.
6. obtained results give grounds to recommend the preparation of arbidol both for warning of influenza and another ORVI in the military associations and for therapeutic purposes with the development of respiratory infections.

Stock-taking documentation:

- Lists of those, who participate in a study;
- Materials of virusological and immunological experiments;
- Book of the calculation of patients in the dispensary (form №5);
- Histories of disease (form №№ of 12, 1a):
- Book of the calculation of patients, directed toward the stationary treatment, VVK and those, who require the systematic medical observation (form №6)

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