



About sensitivity and specificity of the medical methods of influence included in the standard of sanatorium help

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Sanatorium help in many countries, especially in Russia and in the republics of the former Soviet Union is the most important form of disease-prevention care, the effectiveness of which is proved by observations of many scientists. In 2004, the Russian Federation approved packages of standards of sanatorium help for patients with different pathologies. These standards specify the list, frequency of appointment and frequency of application, about 50 methods of medical effects at 3-week sanatorium treatment. In accordance with the concept of developing standards they contain optimal set of medical measures for the treatment of a concrete disease. At the same time none of standards give individual indications for application of this or that medical method of influence and in the standard are given one nosological form, averaged indicators of frequency representation, which ranges from 0 to 100%. Therefore there is a question: what is the sensitivity (the probability of the method prescription of medical effects, if indicated) and specificity (probability of method prescription of medical effects in the absence of evidence) the use of the medical methods of action included in the standards of sanatorium help? The goal in this paper is to evaluate the sensitivity and specificity of the medical methods of influence with the sanatorium help according to standards of the Russian Federation.

Materials and methods. Materials for the study were the standards of sanatorium help for patients with 10 groups of clinical entities: arterial hypertension; ischemic heart disease; cerebrovascular diseases; pathology of the autonomic nervous system; polyneuropathy; lesion of the nerve root and plexus; urolithiasis; glomerular diseases; hepatopathy, gallbladder, bile passages and pancreas; diabetes; arthropathy. The choice of these standards for the analysis involves the use of their systems in the sanatorium network of Joint Stock Company "Kurort" Azerbaijan Republican Confederation of Trade Unions. At the analysis were applied two options. In the first version we compared the frequency of the medical methods action recommended by the standards and actual appointments throughout. In the second version, were compared results of treatment of patients group with the maximum frequency of use and the lack of a specific method of medical effects. The comparison was carried out according to the scheme of fourfold table:

		Disease, the treatment of which is recommended the highest frequency of using the medical method	
		present	absent
Medical method of treatment	applied	a	b
	not applied	c	d

Were calculated the following indicators:

- The reliability of the differences by chi-square;
- The sensitivity (Se) - the probability of applying the medical method in the presence of the disease (index of standard) [a:(a+c)];
- The specificity (Sp) - the probability of not applying the medical method in the absence of the disease, that has maximum frequency of application [d:(b+d)];
- The predictive value of the necessity for the (PV +) method [a: (a + b)];
- The predictive value of absence the necessity for the (PV-) method [d: (a + d)].

Results and discussion.

All 10 groups' nosological forms standards of sanatorium help consist of compulsory set with different frequency of the following medical methods of influence:

- The dry-air baths (maximum 50% with coronary heart disease, minimum 10% with arthropathies);
- sinusoidal modulated currents (maximum 60% with lesions of individual nerves, nerve root and plexus, polyneuropathy, minimum 2% with liver pathologies, gallbladder, and pancreas);
- low-intensity laser radiation (maximum 40% with lesions of individual nerves, nerve root and plexus, polyneuropathy, minimum 2% with hypertension);
- Reflexology (maximum 50% with liver disease, gallbladder, bile passages, pancreas, minimum 1% with coronary heart disease);

- Medical exercise (maximum 100% with the impact of cerebrovascular disease and arthropathies, minimum 20% with hypertension).

Sensitivity varies in the range of 40-100%, which is predetermined by the requirement of the standard. The specificity of considered methods varies in a narrow range (about 80-98%). The absence of a compromise between sensitivity and specificity of the medical methods can be considered as insufficiently strict indications for the appointment of any method of medical effects from a mandatory set of the sanatorium help standard. Therefore, the predictive value of presence (83, 3-98, 0%) and absence (62, 0-100%) of indications

for these medical methods of influence in the standard are different. Probability of the necessity of these methods by maximum and minimum size of indications for applying differs from each other in 5-50 times.

Thus, the medical methods of influence in the set of the sanatorium help standard for patients with various disease groups have different characteristics of sensitivity, specificity and predictive value, which show a lack of indications differentiation for their applying. Therefore, the choice of attending physician is crucial in the provision of sanatorium help for patients based on his primary and concomitant diseases.