

THE USE OF PHYTOTHERAPY IN CHILDREN WITH RESPIRATORY DISEASES

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Abstract. *Treatment with herbal preparations can be considered unique and one of the most sought-after therapies from time immemorial. Thanks to the achievements of science and practical experience in the use of medicines, phytotherapy is also one of the most important areas of modern medicine, which, thanks to the variety of natural biologically active compounds, allows you to solve all kinds of clinical problems, provides optimal effects on the body in all diseases, while complying with the principles of safety. It is proved that the rational use of medicines in the treatment of respiratory diseases can significantly increase the effectiveness of therapeutic, preventive and rehabilitative measures. Most often, in medical practice, one has to deal with infectious and inflammatory processes that are localized in the upper respiratory tract. The cause of most diseases of the ENT organs and oral cavity - both acute and chronic – are infectious agents.*

Keywords: *acute respiratory infection, bronchitis, pneumonia massage, children, cough, treatment, herbal medicines.*

Acute respiratory infections occupy the first place in the structure of pediatric morbidity. In most cases, the etiological factors are viruses, less often bacteria. The penetration of the pathogen into the respiratory tract, its fixation on the surface of the mucous membrane, replication and cytopathic effect on the tissues of the respiratory system lead to the development of intoxication and inflammation. Thus, acute respiratory viral infections (ARVI) can be caused by an extensive group of different viruses, including pathogens of influenza, parainfluenza, adenoviruses, rhinoviruses, etc. At the same time, acute respiratory viral infections are often associated with severe complications, including exacerbation of bronchitis, sinusitis, otitis media, tonsillitis, rheumatism, and pneumonia.

With mild to moderate severity, acute respiratory viral infections are accompanied by moderate intoxication, conjunctivitis, muscle pain (in the prodromal period), rhinitis, cough, and fever are often noted; as a rule, outpatient treatment is indicated. A dairy-vegetable diet rich in vitamins is recommended, consumption of 1.5-2 liters of liquid (tea, moors with honey, fruit juices). As practice shows, with acute respiratory viral infections, you can limit yourself to the use of herbal medicines.

In uncomplicated cases of acute respiratory viral infections, it is recommended to take infusions of linden flowers (2-3 tablespoons per 1 cup of boiling water) 100 ml 2-3 times a day. In the same way, you can make tea from dried fruits and raspberry leaves, tea with raspberry jam. For rinsing the mouth and throat, infusions of calendula flowers, chamomile, black elderberry, sage leaves, eucalyptus, St. John's wort herbs, as well as decoctions of oak bark, angelica roots, alder cones are a good alternative to medicines.

Steam and cold inhalations have a good effect. Steam inhalations can be carried out with potatoes, turnips, pine and birch buds, sage, mother-and-stepmother, St. John's wort, eucalyptus, chamomile, rosemary; cold ones – with garlic, horseradish, onion.

Among the fees used for acute respiratory viral infections, as well as for acute inflammatory diseases of the ENT organs, the most effective are considered to be:

- willow bark, chamomile flowers, linden, rosehip fruits – in equal parts;
- licorice roots – 1 part; pine buds, bagulica grass, elecampane roots, golden root – 2 parts; St. John's wort grass, Mary's root – 3 parts; rosehip fruits, calamus rhizomes – 4 parts;
- licorice roots – 2 parts; oregano grass, pine needles, badan roots, coriander fruits – 3 parts each; St. John's wort grass, raspberry leaves, calendula flowers – 5 parts each.

It is recommended to take such fees in the form of infusions of 1/3 cup 3 times a day 15 minutes before meals.

At the first manifestations of rhinitis, sea buckthorn oil is instilled into the nose; rosehip oil; aloe juice; carrot juice (4-6 drops 3-5 times a day); beet juice, you can with honey (1:3); carrot juice with vegetable oil (1:1).

The duration of the course of phytotherapy for acute respiratory viral infections, as a rule, is 5-7 days. With the development of complications or a predisposition to frequent acute respiratory viral infections – until the symptoms disappear completely.

Mucociliary clearance is a mechanism of local protection of the respiratory tract and consists of functionally interrelated components: ciliated epithelium, periciliary secretion layer and bronchial secretion. The epithelium of the respiratory tract has a multi-row structure and includes, in addition to ciliated cells, of which the majority (80%), also goblet-shaped mucus-producing cells and basal undifferentiated cells. Cell renewal occurs every 4-8 weeks. In the periciliary layer, there is a coordinated unidirectional movement of the cilia – straightening and plunging into the mucus with their tips and pushing it along with foreign particles adhering to it. The movement of the cilia of the ciliated cell consists of two phases: fast effective beating and slow return movement. Such coordinated work of the cilia, combined with adequate secretion production, ensures the effectiveness of the mucociliary system. The direction of the mucus flow moved by the cilia differs in different parts of the respiratory tract: at the anterior ends of the lower nasal conchae, the movement is directed towards the entrance to the nose, in deeper parts of the nasal cavity, as well as from the bronchi and trachea, mucus is directed towards the oropharynx. In the paranasal sinuses, the movement of the cilia is oriented towards the natural anastomoses.

The bactericidal properties of the respiratory tract secretion are due to the content of immunoglobulins (Ig) in it, primarily secretory IgA, as well as the presence of non-specific protection factors (alveolar macrophages, albumin, interferons, lysozyme, serum α , β , γ -globulins, C-reactive protein, lactoferrin, ferritin, fibrinogen degradation products, etc.). The inflammatory process in the respiratory tract is accompanied by desquamation of the epithelium, a sharp fullness of the vessels of the microcirculatory bed with an increase in their permeability, swelling of the mucous and submucosal layer, disrupting the work of the ciliated epithelium. Inflammatory changes also contribute to a partial restructuring of the secretory apparatus – the number of mucus-forming goblet cells increases (due to their replacement of ciliated cells), bronchial gland hyperplasia develops, the mode of mucus production (hypersecretion) changes. Hyperproduction of mucus with a predominance of the gel fraction over the sol, combined with a decrease in the antibacterial and antiviral activity of the secretion due to a decrease in the concentration of secretory IgA, interferon, lactoferrin, lysozyme in it, leads to increased adhesion of pathogenic microorganisms on the mucous membrane of the respiratory tract and creates favorable conditions for microbial colonization. As a result of impaired peristalsis of the small bronchi and the activity

of the ciliated epithelium of the large bronchi and trachea, the necessary drainage of the tracheobronchial tree is disrupted. Violations of the mucociliary system lead to the appearance of cough, a protective reflex aimed at cleansing and restoring normal airway patency.

Herbal therapy has been used for many centuries to treat various diseases, including the respiratory tract. The science of disease prevention and treatment with medicinal plants – phytotherapy has now received a new development in WHO programs that focus not only on expanding the use of medicinal plants, but also integration with academic medicine.

Currently, the latest concept of phytotherapy has been developed, based on the experience of traditional medicine and modern scientific achievements in the field of pharmacy. Phytotherapy as a science develops on the basis of pharmacognosy (the science of medicinal raw materials of plant and animal origin, products of their processing and methods of their standardization), pharmacology, clinical pharmacology, chemistry and is a fusion of diverse knowledge.

Preparations containing plantain and thyme are effectively used to treat cough. An example of such a drug is Eucabal® syrup, which contains aqueous extracts of plantain and thyme (thyme). Thyme extract contains a mixture of essential oils that have expectorant, anti-inflammatory and bactericidal effects. Phytoncides and phenols (thymol and carvacrol) in its composition exhibit bactericidal and bacteriostatic activity against many pathogens, including antibiotic-resistant microflora, L-forms and fungi. Even a small content of phenols in the solution provides antibacterial and antimycotic action, which is relevant during prolonged antibiotic treatment. Essential oils and flavonoids of thyme extract provide a secretolytic and expectorant effect by changing the colloidal state of a thick viscous secretion and increasing the motor activity of the atrial fibrillation. Flavonoids also have an antispasmodic effect, causing moderate bronchodilation and breathing relief.

Psyllium leaf extract, thanks to aucubin, has an antiseptic effect, preventing the spread of infection to the lower respiratory tract. Psyllium extract also contains flavonoids and glycosides, which have anti-inflammatory and mucolytic effects, promote the dilution and excretion of thick and viscous sputum, reduce inflammation and swelling of the mucous membrane of the respiratory tract. The immunostimulating effect of the plant protects the respiratory tract from re-infection. Vegetable mucins of plantain protect the damaged mucous membrane of the bronchi from irritation.

Thus, in the case of a mild course of the disease and the absence of contraindications, it is justified to prescribe combined herbal preparations that affect several components of the pathological process and have a modulating effect on cough, which will lead to a reduction in the duration of cough, its transition to a productive one and significantly increase the effectiveness of treatment.

REFERENCES

1. Modern Herbal Remedies for the Treatment of Acute Respiratory Infections in Children A.B. Malakhov, M.D. Shakhnazarova, I.M. Farber, M.D. Velikoretskaya, and A.Ya. Shishov
2. Herbal medicine. Handbook on the use of medicinal plants in traditional and alternative medicine / V. V. Melik-Huseynov, S. A. Rekkandt Volgograd: Publishing House of VolgSMU, 2014
3. Phytotherapy for children: / G. K. Sergeeva Rostov-on-Don: Phoenix, 2015