



The relationship between environmental parameters of saline and underground karst - patients with different diseases in the course of speleotherapy - anthropogenic effect - keeping intact the underground environment and curative properties.

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One of the non-pharmacological therapy in patients with bronchial asthma (AB) and other BPOC is speleotherapy (ST), recognized as a complementary therapy.

The curative effect of ST depends on geophysic structure of massive salt or karst, of mine or cave cavities, lack of noxes and toxic gas, also on the lack of the plant and microbial allergen, on the microclimatic parameters, sanitary and other parameters of the underground environment, on the mechanism of curative factors in these specific environments, on the medical particularities and disease specific speleotherapeutic methodology. An essential role they have environmental studies of underground cavities that own speleotherapeutic properties and use in medical and balneoclimatic tourism purposes. Among these studies are:

- Air temperature, soil and salt layer;
- Atmospheric pressure and the difference from the outside;
- Relative humidity of the air underground;
- Velocity of air currents;
- Concentration of positive and negative air ions;
- Particle size and concentration of saline aerosol;
- Concentration of microorganisms, including pathogens, conditioning-pathogenic and saprophytic in air, soil saline and salt walls in rooms designed for speleotherapy;
- Concentration of allergens;
- Concentration of oxygen and carbon dioxide, the presence and concentration of ozone, the gaseous pollutants (NO₂, SO₂, hydrocarbons and derivatives of ozone);
- Radioactivity (type, value), the presence and concentration of radon.

Taking into consideration the possibility of anthropogenic effect on the underground salt or karst environment produced by patients with chronic inflammatory diseases, respiratory or skin allergic diseases is needed to assess the underground environmental sanitary parameters in various main locations (the entrance in the underground, the artificial or natural air flow; the sanatory area " - the location where patients or tourists are kept for a period of 1-3 or more hours, bathroom) and the mechanism for keeping them intact.

The data collected indicate the status of the underground salt or karst environment, allows the composition and application of the time period and speleotherapeutic procedures for patients with different pathologies in order to obtain speleotherapeutic positive effect or their use to balneoclimatic tourism, and also allow to assess anthropogenic pollution and necessary measures for keeping intact of curative properties or their regeneration.