Effects of salt therapy

Interesting facts about salt

“These two are the most important in the world: salt and water.” (Plinius)

Salt is the white gold of earth, a vital element, which also served as a means of payment in ancient times, and wars were waged for the possession of salt mines.

Primitive civilisations were not yet aware of the importance of salt, and mostly obtained the salt and other minerals necessary for life from the blood of animals.

Later, with the development of agriculture, the demand for salt began to increase. It was realised that salt helps preserve foods thus making food transport and supply possible during longer journeys. Romans built salt roads for the transportation of salt. Via Salaria was one of them and led to the Adriatic, where salt was produced via evaporation technologies still in use. The price of salt was kept under control: it was raised during wars in order to cover the costs thereof, and then lowered again in order to make salt available to ordinary citizens. Roman soldiers were paid in salt. The English word for payment, ‘salary’, also comes from the Latin word ‘salarium’ meaning payment in salt.

Facts to be known about natural salt

Many only know salt as a spice although it is vital for the human body in maintaining good health.

The composition of table salt and naturally occurring crystalline salts is different. Table salt is produced by the chemical purification of natural salts, and is rich in Na+ and Cl- ions (e.g., K+, Ca+, Mg2+, PO43-, HCO3-). Ions have an electric potential, that is, energy. Our blood and the other intracellular and extracellular fluids in our body contain water-dissolved salts, that is, electrolytes. Maintaining the electrolyte balance of our body is essential for the vital functions, for the maintenance of normal hydration (= appropriate water supply status), for the regulation of the pH and pressure of blood, and for the normal neurological and muscle functions. Neuronal cells and muscle tissues are capable of transmitting electrical activity. Without electrolytes, i.e., water-dissolved natural salts, there would be no thinking, speech, muscle contraction or movement. The balance between water and salts regulates the metabolic processes of our body, energises and activates it. Without salt and water, our body would become completely dysfunctional.

Physiological processes in the maintenance of which natural salt therapy may play a role

regular heart function

blood pressure regulation

blood sugar regulation

lung purging, removal of the mucus, especially in asthma and cystic fibrosis

maxillary sinus purging

strong antihistamine effect (favourable in allergies, for example)

preventing muscle spasms

preventing increased saliva production

ensuring bone stability and preventing osteoporosis

sleep regulation

eliminating dry cough

preventing gout

maintaining sexuality and libido

preventing the development of varicose veins and spider veins

maintaining communication and the flow information between neuronal cells

nutrient absorption from the intestinal canal

Treatment of upper respiratory diseases with salt therapy

Inhalation therapy has been in use for respiratory diseases for a very long time. In India, inhalation of the fumes generated by burning various seeds and roots was recommended for the treatment of cough and wheezing. The beneficial effects of halotherapy, that is, salt therapy was first demonstrated by a Polish surgeon, Fliks Boczkowsky in 1843. For salt therapy, the microclimate of salt caves is created artificially.

Salt particles get deposited at various depths in the airways depending on their size. Particles larger than 8 micrometer are deposited in the pharynx, and those between 5 and 8 micrometers are deposited in the large airways. Particles with the size of 0.5 to 5 micrometer also reach the lower airways and are deposited there. Therefore, the latter is the most efficient for therapeutic purposes.

Mechanism of action of salt therapy treatments

The anti-inflammatory effect of salt therapy is due to its alkaline effect which helps salt particles attach directly to the mucous membranes of the airways. The deposited salt particles reduce mucus viscosity and restore the normal transport through the mucus, which helps eliminate inactivated pathogenic microorganisms and the pollutants deposited in the airways. Thus, the inhaled salts essentially act as a solvent and draw in the phlegm stuck in the upper and lower airways. Natural salt crystals also act as a disinfectant, and destroy most viruses, bacteria and fungi. They also improve the physical and biochemical activity of the body, and enhance metabolic processes and peripheral circulation. They reduce swells, dissolve mucus, and behave as a natural antihistamine.

The salt chamber of the Daytime Outpatient Hospital of 'Szent Gellért' Thermal Baths is unique in Hungary: patients inhale a dense vapour mist generated by vaporising an aqueous solution of common salt and sodium bicarbonate using compressed air. This so-called inhalatorium for the treatment of respiratory diseases was created in 1918 during the construction of 'Szent Gellért' Thermal Bath. Professional work in this department was established by Dr. Tibor Glück, a recognised scientist of asthma at the time. The inhalatorium is recommended for the treatment of upper respiratory diseases associated with the production of sticky, poorly clearing and dense phlegm.

The treatment occurs in a small closed space where patients inhale a salt solution of a particle size of 0.5 micron generated by vaporising an aqueous solution of common salt and sodium bicarbonate. This cloud is evenly spread across the chamber, which is at room temperature, and the patients spend 15 to 20 minutes in it during a single treatment session. Upon the dissolution and clearance of the phlegm, inflammation in the upper airways heals and cough is eliminated. Due to the intensive mucolytic effect, a strong self-clearing process is set in motion. This therapy is gentle and can be used alone or in combination with other treatments.

When to recommend salt therapy?

Due to its mucolytic and anti-inflammatory effect, salt therapy may be recommended alone or as supplementary treatment in almost all respiratory diseases, and the results are outstanding. Favourable outcome is also expected in the following upper respiratory conditions in both children and adults: chronic paranasal sinusitis, diseases associated with prolonged posterior phlegm secretion, and allergic and chronic rhinitis. Of course, a comprehensive otolaryngology check-up is recommended before initiating the therapy. Literature data from 2012 suggest that in healthy children, halotherapy reduces the occurrence of upper respiratory diseases.

Salt therapy may also be successfully applied in chronic bronchitis in the lower airways, in pneumonia after the acute phase, in emphysema, in conditions associated with coughing such as coughing due to smoking, and may also be effective during the convalescence period after common colds and influenza, and in several other diseases.

In summary, it is concluded that salt inhalation therapy is useful in both acute and chronic obstructive respiratory conditions. It may be applied both to promote expectoration and to achieve a local anti-inflammatory effect.

The treatment is not recommended if inflammatory conditions associated with acute respiratory illnesses and fever, or high blood pressure, or an infectious disease is present.

Professionally applied halotherapy has no side effects.

Semmelweis Egyetem,
http://semmelweis.hu/fulorrgegeszet/betegeinknek/betegsegekrol/a-soterapia-hatasai/