HALOTHERAPY – AN ALTERNATIVE METHOD FOR THE TREATMENT OF RESPIRATORY DISEASES

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ABSTRACT

Halotherapy is an alternative method of treating respiratory diseases. This kind of treatment has become more and more popular in last decades. Sodium chloride has a proven antibacterial, antimycotic and anti-inflammatory effect and is of great importance for the normal function of the bronchial ciliated epithelium. This article reveals the benefits of salt in regard to the respiratory system, indications and contraindications for this kind of treatment and the possibilities for combining it with some other physical therapy methods.

Keywords: halotherapy, respiratory diseases, salt inhalations

Salt has been used for millennia in different parts of the world by different cultures because of its health benefits and therapeutic effect. Nowadays, the use of salt, known as halotherapy, has been the subject of numerous scientific studies conducted by scientists from Europe and the Far East, encompassing the period from 1800 up to present times. Many studies have been published in the last few decades. They present the efficiency of halotherapy and its application in various diseases. Salt as a means of treatment was first described in 1843 by the Polish therapist Feliks Boczkowski. He noticed that people working in the salt mines in Poland enjoyed excellent health despite the harsh working conditions and the lack of sufficient food. In addition to this, they almost never suffered from colds or any respiratory diseases, which were frequently observed among the rest of the population. This prompted the physician to conduct research by which he established that all this was due to the saturated with salt air that the miners breathed daily. Thus, salt mines in Poland and Eastern Europe gradually became popular sanatoriums, attracting visitors from all over the world.

In the last decades halotherapy has gained the trust of more and more people around the world and has been spreading quickly to Western Europe, Canada, Israel,
North America, and many other countries. The efficiency of salt therapy is mainly due to two reasons:

- **salt has an antibacterial, antymycotic and anti-inflammatory effect** (it has been established that the environment in salt rooms is three times more sterile than the cleanest operating room);
- **salt has a natural ability to emit negative ions, neutralizing a positive charge.**

It has been proven that this is a highly effective way of positively influencing numerous respiratory diseases with a prompt resolution of symptoms, improvement of pulmonary ventilation and tolerance of physical strain, and an increase in the immunity and protective capacity of the organism (6).

The main therapeutic factor is sodium chloride with an aerosol particle size of 2 to 5 millimicrons. A study by Chervinskaya, including 124 patients with different pulmonary diseases, showed a considerable improvement of the clinical status of the majority of the participants after a one-hour stay in a salt room daily, for a period of 15-20 days (3). Similar results were observed in another study based on a chemiluminescent test in 49 patients with chronic obstructive bronchitis. Halotherapy led to positive changes in the oxidation of free radicals and improved local immunity and the clinical presentation of the disease (2,4).

Immunological and cardiorespiratory indicators were studied in 88 metallurgists diagnosed with toxic dust bronchitis. The conducted therapy consisted of sinusoidal modulated current and ultrasound in the intercostal region, and respiratory exercises combined with massage and halotherapy. The patients were divided into three groups:

1. halotherapy and ultrasound treatment;
2. halotherapy and sinusoidal modulated current treatment, and
3. halotherapy alone.

The study proves that combining halotherapy with the use of physiotherapy equipment increases the efficiency of salt therapy by 86.5%. The combination of electric current procedures and halotherapy can be used both for treatment and prevention of obstructive syndrome in toxic dust bronchitis (7).

Sodium chloride is vital for the normal functioning of the bronchial ciliated epithelium. The observed effects of the aerosol therapy are as follows: a relief in expectoration, decrease in sputum viscosity, cough improvement, and positive changes in the auscultatory findings. In addition, sodium chloride has a bactericidal and bacteriostatic effect on the respiratory microflora. The cytobacteriological examination of bronchial and nasopharyngeal secretions from patients with asthma,
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Halotherapy is indicated in most respiratory diseases, including:

- respiratory tract infections;
- asthma;
- allergic and chronic bronchitis;
- frequent colds;
- pharyngitis;
- sinusitis;
- rhinitis;
- tonsillitis;
- pneumonia, after an acute stage;
- chronic obstructive pulmonary disease (COPD).

The main contraindications include hyperthyroidism, active tuberculosis, high-grade hypertension, cardiovascular and respiratory failure, acute-stage blood disorders, and malignant diseases. Caution should be exercised when prescribing this therapy to patients with:

- asthma, chronic obstructive pulmonary disease (COPD), and cystic fibrosis shows that halotherapy leads to a decrease of neutrophils and pathogenic microorganisms, and increases the alveolar macrophages. Halotherapy has mucolytic, antibacterial, anti-inflammatory, immunomodulating and hyposensitive effect (3).

Halotherapy can successfully be combined with other physical therapy methods. Its efficiency is increased when accompanied by postural drainage, vacuum massage on the projection of the lung apices, respiratory gymnastics, as well as laser therapy, ultrasound or a magnet, applied in the pulmonary area. The synergic action of halotherapy and physiotherapy is a step towards the holistic approach in the treatment of various respiratory and cardiovascular diseases.

The treatment is conducted in special salt rooms, equipped with a halogenerator, which disperses the salt in the room. The halotherapy rooms have air with low humidity and a temperature in the comfort zone – 22-24°C. When conducting the procedure, the patients are left in the salt room or cave for 45 minutes and breathe the saturated with salt air, which is transported to the smallest of the bronchi as well as to the sinuses and the nasal cavity. The low humidity in the room is of vital importance.

The number of sessions depends on the patient’s condition and the nature of the disease. For chronic respiratory diseases, such as asthma, bronchitis, sinusitis, and allergy, it is highly recommended to conduct at least 12 to 20 sessions, 45 minutes each and for the shortest period of time possible. The more frequently conducted they are, i.e. the shorter the time between two procedures, the faster the results are observed and the longer-lasting they are. It is recommended to conduct halotherapy 3 times per year in order to maintain and stabilize the positive results.

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се поддържа и затвърди положителния резултат.
Халотерапията е показана при повечето заболявания на дихателната система, включително:
- инфекции на дихателните пътища;
- астма;
- алергичен и хроничен бронхит;
- чести настинки;
- фарингит;
- възпаления на синусите;
- ринит;
- тонзилит;
- пневмония след остър стадий;
- ХОББ.

Основните противопоказания включват хиперфункция на щитовидната жлеза, активна туберкулоза, високостепенна хипертония, сърдечно-съдова и белодробна недостатъчност, кръвни заболявания в остър стадий, злокачествени заболявания. На пациенти с клаустрофобия е желателно терапията да се изписва предпазливо.

По време на самото лечение могат да се наблюдават странични ефекти като засилена кашлица и усилено отделяне на секрети, което по-скоро се смята за положителен ефект, тъй като осигурява прочистване на дихателните пътища и сигнал за пренагласа и реакция на адаптация на организма към съответния дразнител.

ЗАКЛЮЧЕНИЕ

Халотерапията е алтернативен метод за лечение на множество респираторни заболявания. Методът е с незначителни странични ефекти. Провежда се в приятна и уютна обстановка, което въздействие благоприятно върху психоемоционалното състояние на пациентите. Положителния ефект от лечението се задържа повече от година. Възможността да се комбинира с други средства на физикалната терапия, както и с медикаментозно лечение, го прави добър метод за избор при леките и средно тежки форми на бронхиална астма, хроничен обструктивен бронхит, състояния след пневмония и редица други белодробни заболявания.

with claustrophobia.

During the treatment itself, certain side effects might be observed, such as increased coughing and more abundant secretion, which is actually considered a positive effect because it leads to respiratory tract clearing and it is a signal for a change and adaptation of the organism to the specific irritant.

Skin irritations are rare side effects and are normally resolved by the third or fifth session. Conjunctivitis as result of irritation of the mucoid membrane is rarely observed. It is not a reason to interrupt the sessions. In such cases, it is recommended to keep the eyes closed when spending time in the salt room (1).

CONCLUSION

Halotherapy is an alternative treatment method in numerous respiratory diseases. It has insignificant side effects. It is conducted in a pleasant and cozy environment, which has a beneficial effect on the psycho-emotional state of the patients. The positive results from the therapy last for more than a year. The possibility to combine it with other physical therapy methods, as well as with pharmacological therapy, makes it a treatment of choice in mild and moderate forms of bronchial asthma, chronic obstructive bronchitis, post-pneumonia asthma and various other respiratory diseases.

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