



March 3rd to 6th Euganean Thermae and Padua, Italy

PADUA DAYS ON MUSCLE AND MOBILITY MEDICINE 2026

ABSTRACT N. 089

EUROPEAN MEDICAL THERMALISM AND THE WORLD FEDERATION OF HYDROTHERAPY AND CLIMATOTHERAPY (FEMTEC)

THERMAL MEDICINE IN THE TREATMENT AND PREVENTION OF CHRONIC RESPIRATORY DISEASE (ZOOM)

Irina Grishechkina¹, Maxim Yu. Yakovlev^{1,2}

¹Department for Studying the Mechanisms of Action of Physical Factors, National Medical Research Center for Rehabilitation and Balneology; ²Department of General Hygiene, Sechenov University, Moscow, Russia.

According to WHO data, diseases of the respiratory system (DRS) account for a significant proportion of morbidity. Chronic respiratory diseases (bronchial asthma and chronic obstructive pulmonary disease (COPD)) are the 6th leading cause of death worldwide from chronic diseases (1). They can be treated effectively, but are often diagnosed at a late stage, making prevention a key issue (2, 3). Aim of the study was to evaluate the dynamics of clinical, instrumental, and laboratory indicators at various stages of health-resort treatment (HRT) in patients with respiratory diseases (7, 14, 18, and 21 days). In 2024, a multicenter randomized study was conducted at three scientific and clinical branches of the National Medical Research Center for Rehabilitation and Balneology of the Russian Ministry of Health involving 300 patients with bronchial asthma, chronic obstructive pulmonary disease, and chronic bronchitis with varying durations of health-resort treatment. Before and after treatment, the following procedures were performed: general clinical examination, testing (physical exercise tolerance, quality of life test, Asthma Control Test, hospital anxiety and depression scale), spirometry. The treatment for all patients included: aërotherapy, haloinhalation, therapeutic exercises for respiratory low-intensity laser radiation on the lung root projection, variable magnetic field exposure on the posterior chest surface, and mineral water inhalations. For patients with bronchial asthma, additional treatments included gas-air carbon dioxide baths, terrenkur, for patients with COPD – general baths with pine extract, treadmill, for patients with chronic bronchitis – gas-air carbon dioxide baths, foam licorice general baths spirometry. Treatment for all patients included: aërotherapy, haloinhalation, therapeutic exercises for respiratory diseases, low-intensity laser radiation on the lung root projection, variable magnetic field exposure on the posterior chest surface, and mineral water inhalations. For patients with bronchial asthma, additional treatments included gas-air carbon dioxide baths, terrainkur, for patients with COPD – general baths with pine extract, treadmill, for patients with chronic bronchitis – gas-air carbon dioxide baths, foam licorice general baths. The patients with bronchial asthma showed a statistically significant reduction in the number of

asthma attacks, the need for symptomatic therapy, and an improvement in questionnaire scores on day 7, which persisted on days 14, 18, and 21 of health resort treatment. On days 14, 18, and 21 of health-resort treatment, there was a statistically significant decrease in the number of patients complaining of shortness of breath, and an increase in FEV1 and VC values. On the 7th, 14th, 18th, and 21st days, the patients showed a statistically significant increase in the distance covered in the 6-minute walk test, on the 14th, 18th, and 21st days – an improvement in quality of life, and at 21 days – a decrease in depression levels. In patients with COPD, starting from the 7th day of health-resort treatment, there was a statistically significant improvement in quality of life, a decrease in depression levels, and an increase in exercise tolerance. These changes persisted on the 14th, 18th, and 21st days of health-resort treatment. From the 18th day of health-resort treatment, there was an increase in external respiration function indicators, and on the 21st day, there was a decrease in depression levels and erythrocyte sedimentation rate in the complete blood count. Meanwhile, the patients with chronic bronchitis showed an improvement in quality of life on the 7th day of health-resort treatment, and this trend persisted on the 14th, 18th, and 21st days. On the 14th day of health-resort treatment, there was a statistically significant decrease in complaints of weakness and fatigue, an increase in saturation, a decrease in the number of leukocytes and erythrocyte sedimentation rate in the complete blood count, and this trend continued. On the 14th day of the health resort-resort treatment, an increase in haemoglobin is noted in the complete blood count, and these changes continue on the 18th and 21st days of the health resort-resort treatment. In conclusion, in light of the aforementioned dynamics of clinical and instrumental-laboratory indicators of patients with respiratory diseases, it is possible to select the individual duration of the health-resort treatment course, depending on the individual treatment goals of the patient (control of symptoms, improvement of general well-being, improvement of physical exercise tolerance, correction of external respiration function, prevention of future exacerbations).

Keywords: bronchial asthma, chronic obstructive pulmonary disease, chronic bronchitis.



March 3rd to 6th Euganean Thermae and Padua, Italy

PADUA DAYS ON MUSCLE AND MOBILITY MEDICINE 2026

ABSTRACT N. 089

EUROPEAN MEDICAL THERMALISM AND THE WORLD FEDERATION OF HYDROTHERAPY AND CLIMATOTHERAPY (FEMTEC)



Figure 1. The region where this study was conducted, the Caucasian Mineral Waters, located in a low-mountain temperate climate (the cities of Yessentuki and Kislovodsk).