



## CLINICAL BENEFITS OF MICRONUTRIENTS IN TUBERCULOSIS

Nearly one third of the world population is infected with the tuberculosis (TB) bacteria even if they may not have any symptoms. According to the World Health Organization (WHO), 8.6 million people had active illness and 1.3 million died from TB in 2012<sup>1</sup>. The US has approximately 10,000 reported cases of TB. In the developing countries, more than 90% of the TB infections and deaths occur in young adults between the ages of 15-44. The death rate is expected to increase worldwide because the TB bacteria have developed resistance to almost all the available treatment options and new approaches to TB are desperately needed.

TB infection occurs through inhalation, and the lungs are the primary site of infection. However, the infection can spread to all organs including the lymph nodes, genitourinary organs, bones, joints, and the brain. Some of the initial symptoms can be vague, such as fever, fatigue, and loss of appetite; however, at the later stages symptoms like night sweats, persistent cough with sputum and blood develop, which indicate a highly contagious disease. In people with a strong immune defense system, the body is able to encapsulate the bacteria in the lungs causing latent infection when the person is not contagious. However, if the immune system weakens, the bacteria can start multiplying and the person will develop symptoms and become contagious.

It is well known that malnutrition and deficiency of essential nutrients is one of the major risk factors for tuberculosis and other bacterial or viral infections. Although the antioxidants are proven to decrease the infection rates and improve recovery, they are still not a part of the standard TB treatment.

We conducted a clinical trial in 120 hospitalized patients with active pulmonary TB to investigate how a combination of specific micronutrients taken with the standard TB treatment affects the healing process<sup>2</sup>. At the end of the trial period, the patients taking micronutrients had significantly higher signs of healing, as seen on their chest X-rays and other parameters. Their cavity healing was almost 30% higher than the control group of patients who received only the standard TB treatment. Moreover, all (100%) of the patients in the group taking micronutrients



tested negative to the TB bacteria while only 88% of the patients in the control group had a negative TB test.

One of the most common side effects of all of the TB drugs is liver damage and in approximately 40%-50% of the cases liver failure is the cause of death in TB patients. In our clinical trial, patients taking the supplements reported significantly fewer drug side effects. Only 11% of these patients reported any side effects, and 89% of the patients experienced improved tolerance to the standard TB treatment, including better liver protection, whereas 46% of the patients in the control group experienced mild to moderate adverse events that required further treatment.

Until the 1980s, TB was close to eradication before it emerged again and it is rapidly becoming a public health emergency all over the world. Standard drug treatment is tedious to follow, generates many serious side effects negatively affecting patient compliance which contributes to the emergence of a drug resistant bacteria. Our study shows that specific micronutrients can help accelerate the healing process in TB patients, can support the elimination of the TB bacteria, and can reduce the damage caused by standard drug treatments. These findings should be implemented worldwide as an effective and cost saving measure in TB management.

<http://www.who.int/mediacentre/factsheets/fs104/en/>

*L.V. Turchenko, et al., The Open Products Natural Journal 2008; 1: 20-26*

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The ground-breaking nature of this research poses a threat to the multi-billion dollar pharmaceutical "business with disease". It is no surprise that over the years the drug lobby has attacked Dr. Rath and his research team in an attempt to silence this message. To no avail. During this battle, Dr. Rath has become an internationally renowned advocate for natural health. Says he: "Never in the history of medicine have researchers been so ferociously attacked for their discoveries. It reminds us that health is not given to us voluntarily, but we need to fight for it."

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