

## Vital role of nutrition in the TB recovery journey

South Africa bears one of the highest burdens of tuberculosis (TB) disease in the world. Year on year, the country has a high incidence of TB infections and tens of thousands of South Africans lose their lives due to TB disease. This is compounded by the prevalence of HIV-TB co-infection and ongoing issues with drug-resistant TB strains which makes treatments more lengthy and more costly.

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“It is almost impossible to comprehend that a curable disease that has existed for more than 2,000 years is still a major health challenge in 2023,” says registered dietitian, Janke Draper, who is a spokesperson for ADSA (Association for Dietetics in South Africa). “Unfortunately, TB disproportionately affects people living in poverty, and poverty in South Africa is becoming more and more problematic as the unemployment rate increases in the midst of long entrenched income inequality. South Africans facing the worst economic hardships are the least likely to access TB diagnosis and treatment, which spotlights the urgent need to focus and improve TB health services in underserved communities.”

TB is an infectious disease caused by *Mycobacterium tuberculosis*, a bacterium that primarily affects the lungs. It spreads through airborne bacteria released in tiny droplets when an infectious person with active TB disease coughs or sneezes. Typically, close and prolonged contact with an infectious person is necessary for transmission of the bacteria, and not everyone who is exposed to the bacteria develops active TB disease. In many cases, the immune system can keep the TB infection dormant. However, those with weakened immune systems, such as people living with HIV, are more susceptible to developing active TB disease.

### Why poverty, nutrition, TB and HIV intersect

Malnutrition is another factor that leads to a weak immune system and a higher risk of developing TB disease. Food insecurity is a major cause of malnutrition in South Africa, so is chronic substance abuse which often results in being underweight. Commenting on this, another ADSA spokesperson and registered dietitian, Faaizah Laher says: “Since nutrition plays a vital role in determining the strength of the immune system, under-nourishment, including significant loss of fat and muscle mass, is one of the risk factors of TB.

Where there is malnutrition, poverty, overcrowding, stress, alcoholism and drug addiction, there is TB. Due to lack of access to healthcare, malnutrition is too often already severe at the stage of diagnosis. The body requires extra amounts of energy, protein, and nutrients to fight off infection. Healthy weight is also essential to the effectiveness of TB drug regimens. However, promoting weight gain and maintaining body mass can be challenging as both HIV and TB disease-states interfere

with the body's ability to absorb nutrients.”

### Understanding the nutrients that are important during TB treatment

TB patients undergoing treatment must focus on their daily nutrition. Loss of appetite and digestive complaints are common symptoms, making it more difficult to take in sufficient nutrients. It's important to remember though, that TB is a curable disease. It does require antibiotic treatment that can last for many months and strictly adhering to the drug treatment all the way to the end is vital to prevent the recurrence of infection and avoid developing drug-resistant TB infections.

People suffering from TB have high daily protein and energy needs as well as important nutrition requirements when it comes to vitamins and minerals. They commonly experience micronutrient deficiencies, namely vitamins A, E and D and minerals calcium, iron, zinc and selenium. Janke points out that these deficiencies are a particular problem. She says: “Micronutrients play a significant and complex role in the immune function. Whenever the immune system is compromised successful TB treatment is at stake. Therefore, nutrition deficiencies are associated with increased risk and severity of TB disease, delays in recovery and longer, more frequent hospital visits.”



### Top dietitian tips to improve the nutrition of people with TB

Faaizah says, “It's best to focus on eating a varied, healthy diet, and staying away from unhealthy habits like smoking, drinking alcohol and sugary drinks. Drink lots of clean water throughout the day to hydrate. Aim to have a minimum of three mixed meals a day because when meals are mixed, we have the best absorption of nutrients. Remember that physical activity or light exercise is important to rebuild muscles. If you're experiencing a loss of appetite, try five to six smaller meals per day.”

She explains that mixed meals means ensuring that we use a combination of foods from the four basic food groups in one meal:

1. **Starches** such as cereals, rice, maize meal, wholewheat bread, potatoes and butternut
2. **Vegetables and fruit** which provides our body with all the vitamins and minerals it needs to support the immune system
3. **Protein-rich foods** such as milk, eggs, yoghurt, maize, beans, lentils, chicken, meat, and fish
4. **Oils and fats** as well as nuts and seeds

Here are some of Faaizah's examples of mixed meals containing all four food groups:

- Chicken stew with onion and carrots served with green beans and maize porridge
- Beans and samp with beetroot, cooked cabbage and onion

- Peanut butter and bread with a banana
- An orange with a cheese sandwich
- Maize porridge with milk or maas, a little margarine and sugar with an apple or fruit of your choice
- Oats porridge with yoghurt, a banana and a little sugar
- Pilchards with rice, cabbage salad and chakalaka
- Beef stew with tomatoes, green beans and carrots served with rice or lentils
- Mielie pap, morogo, beetroot and lamb
- Chicken sandwich and an apple
- Amabumbe with pilchards and stewed vegetables
- Mielie pap with tomato and onion stew, beans and mixed vegetables
- Bean stew with rice and steamed frozen vegetables
- Pilchards on bread with salad
- Beans and bread with cooked spinach and tomato
- Beef mince with tomato, spinach and onion served with pasta
- Bread with a boiled egg and a banana
- Soy mince with mixed vegetables and rice or pap
- High protein cereal with milk and margarine, and a banana
- Vegetable soup with chickpeas or barley and a slice of bread

Nutrition plays a vital role in the recovery and well-being of TB patients. Seeking professional guidance from a registered dietitian can help you to optimise your nutrition and follow an affordable meal plan that suits your tastes. Remember, a well-nourished body is better equipped to combat TB and helps you to regain your strength.

To find a dietitian in your area, visit [www.adsa.org.za](http://www.adsa.org.za).

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