

From *TreatmentUpdate* 226

A clinical trial of friendly yeast

In low- and middle-income countries, clinical trials of the friendly microbe *S. boulardii* (a yeast) have found that it can generally reduce diarrhea.

Researchers in Barcelona, Spain, conducted a randomized, double-blind, placebo-controlled trial with 44 HIV-positive people taking HIV treatment (ART). Participants took supplements of *S. boulardii* for 12 weeks. Most participants who received *S. boulardii* had reduced levels of bacterial proteins in their blood. Levels of the immunological signal IL-6 (interleukin-6), which is associated with inflammation, decreased modestly. These changes persisted for at least three months after the cessation of the study.

Study details

All participants had been taking ART and had a viral load of less than 20 copies/mL for at least two years prior to entering the present study. Researchers reported that half of the participants entered the study with more than 400 CD4+ cells/mm³.

Participants took about 5 billion units of *S. boulardii* daily. This probiotic was taken in capsules three times daily.

Key findings

The use of *S. boulardii* was associated with the following changes compared to placebo:

- a decrease in IL-6 levels in the blood
- a decrease in levels of bacterial proteins in the blood
- a decrease in activation of the immune system (this was shown as a decrease in the level of a protein called beta2-microglobulin in the blood)

These changes were statistically significant.

There were no other notable and significant changes in the study, including CD4+ and CD8+ cell counts.

The researchers found that the friendly yeast was well tolerated and did not cause harm.

Bear in mind

Supplements of *S. boulardii* were used in the time before ART was available to try to reduce the severity of AIDS-related diarrhea.

In the current era when ART is widely available in high-income countries, perhaps *S. boulardii* supplements may have another use, such as reducing inflammation in the immune system. However, note that the present study was relatively small and adherence to a thrice-daily regimen of probiotics was not directly measured. Despite this, the overall design of the Barcelona study suggests that there is modest benefit. The researchers said that a longer study may be useful with this probiotic.

—Sean R. Hosein

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Produced By:



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Production of this content has been made possible through a financial contribution from the Public Health Agency of Canada.

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