



## Abstract

# Effect of *Saccharomyces cerevisiae* Yeast-Based Supplement on Human Milk Oligosaccharide Concentration and Mothers' Perception of Breast Milk Supply: A Randomized Placebo-Controlled Trial <sup>†</sup>

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**Abstract:** *Saccharomyces cerevisiae* yeast-based supplement (SCYS) is frequently used as a galactagogue. However, its efficacy has only been evaluated in lactating ruminants and sows, not humans. This study aims to investigate the effect of taking an SCYS on human milk oligosaccharide (HMO) concentration and perceived insufficient milk supply (PIM). A randomized, double-blind, placebo-controlled trial was conducted at Palmerston North, New Zealand from May 2019–July 2021. Breastfeeding women with a term infant aged 1–7 months were randomly assigned to consume an SCYS (5 g/day) or placebo for four weeks. Concentration of 11 HMOs were analyzed by UHPLC with fluorescence detection. Online questionnaires were used to evaluate PIM, postnatal distress, infant feeding status, and self-reported side effects of taking SCYS. In addition, the infants' feeding pattern (duration and frequency of breastfeed) were examined using a 24-hour feeding record. Sixty-eight women completed this study. The SCYS had no effect on individual or total HMO concentration. There were no significant differences in PIM, postnatal distress, or infant feeding pattern between the SCYS and placebo groups. However, more participants in the SCYS group than the placebo group perceived that the intervention increased their milk supply (65% vs. 35%,  $p < 0.05$ ). Women in both groups reported adverse effects, but no participant withdrew from this study. The SCYS has no effect on HMO concentration or PIM. Research is needed to investigate the effect of SCYS on breast milk volume and self-reported indicators of milk supply increase.

**Keywords:** human milk; breastfeeding; lactation; human milk oligosaccharides; perceived insufficient milk supply; *Saccharomyces cerevisiae* yeast-based supplement; brewer's yeast; randomized placebo-controlled trial



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