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Effect of *Lactobacillus gasseri* SBT2055 in fermented milk on abdominal adiposity in adults in a randomised controlled trial.

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Abstract

Consumption of fermented milk (FM) containing a probiotic, *Lactobacillus gasseri* SBT2055 (LG2055), previously showed a reduction in abdominal adiposity in a randomised controlled trial (RCT) using FM with 108 colony-forming units (cfu) of LG2055/g. However, whether the effectiveness is observed at lower concentrations, the recommended minimum or intermediate levels of probiotics (106 or 107cfu/g, respectively), remains to be examined. A multi-centre, double-blind, parallel-group RCT was conducted using 210 healthy Japanese adults with large visceral fat areas (80.2-187.8 cm²). They were balanced for their baseline characteristics and randomly assigned to three groups receiving FM containing 107, 106 or 0 (control) cfu LG2055/g of FM, and were asked to consume 200 g FM/d for 12 weeks. **Abdominal visceral fat areas, which were determined by computed tomography, at week 12, changed from baseline by an average of - 8.5 % (95 % CI - 11.9, - 5.1; P < 0.01) in the 107 dose group, and by - 8.2 % (95 % CI - 10.8, - 5.7; P < 0.01) in the 106 dose group.** Other measures including BMI, waist and hip circumferences, and body fat mass were also significantly decreased from baseline at week 12 in both groups; interestingly, the cessation of taking FM for 4 weeks attenuated these effects. In the control group, none of these parameters significantly decreased from baseline. **These findings demonstrate that consumption of LG2055 at doses as low as the order of 108cfu/d exhibited a significant lowering effect on abdominal adiposity, and suggest that constant consumption might be needed to maintain the effect.**