

# Probiotic soy milk and anthropometric measures: Is probiotic soy milk beyond soy milk?

Fahimeh Haghigatdoost<sup>(1)</sup>, Leila Azadbakht<sup>(2)</sup>

## Editorial

Date of submission: 15 May 2015, Date of acceptance: 18 Aug 2015

### Introduction

During last years, probiotic products have attracted great interest in treating various health complications, including chronic kidney diseases, metabolic abnormalities such as dyslipidemia, chronic inflammation, and hyperglycemia as well as obesity.<sup>1-5</sup> It has been suggested that because of the significant contribution of gut microbiota to energy metabolism, consuming probiotic products may be useful in weight control.<sup>6</sup> Consistently, the beneficiary impacts of functional foods like soy products have been reported in previous investigations.<sup>7-10</sup> It is possible that combining probiotics with functional foods intensify the helpful outcomes of each component.

In this supplement issue of the ARYA Atherosclerosis journal, Hariri et al. have shown that consuming probiotic soy milk leads to similar reductions in weight, body mass index (BMI) and waist to hip ratio, compared with soy milk, in type II diabetic patients.<sup>11</sup> However, the reductive effects of probiotic soy milk on systolic and diastolic blood pressures were significantly greater than soy milk.

The non-significant difference in anthropometric measures between intervention and control groups might be attributable to the polyphenols content of soy products.<sup>12</sup> Indeed it is possible that favorable effects of these components to be stronger than the effects of probiotics on the growth of gut microbiota, and in a short time intervention, as 8 weeks, could better impose their effects. In the support of this hypothesis, another clinical trial indicated that soy milk consumption for 4 weeks could reduce waist circumference greater than cow's milk.<sup>8</sup> However, it needs to be examined in future studies that if polyphenols are more effective than probiotics in anthropometric changes or not. In addition, their effects on blood pressure might be different and probiotics to be stronger

than polyphenols. These question needs to be answered in longer and larger studies. In the current study, adherence to dietary intervention was assessed by using 1-day recall,<sup>11</sup> whilst monitoring returned soy milk bottles might be more precise method. Baseline soy consumption and BMI of participants must be taken into account, since these variables might have prominent role in the effects of polyphenols and probiotic soy milk. Despite these limitations, this study has some strength, which are worth nothing. This study was conducted in free-living type II diabetic patients and indicates that this intervention could clinically be practical. Moreover, both sexes were included in this study, and their findings could be generalized to both sexes.

### Acknowledgments

None.

### Conflict of Interests

Authors have no conflict of interests.

### References

1. Hutt P, Songisepp E, Ratsep M, Mahlapuu R, Kilk K, Mikelsaar M. Impact of probiotic *Lactobacillus plantarum* TENSIA in different dairy products on anthropometric and blood biochemical indices of healthy adults. *Benef Microbes* 2015; 6(3): 233-43.
2. Mohamadshahi M, Veissi M, Haidari F, Javid AZ, Mohammadi F, Shirbeigi E. Effects of probiotic yogurt consumption on lipid profile in type 2 diabetic patients: A randomized controlled clinical trial. *J Res Med Sci* 2014; 19(6): 531-6.
3. Nabavi S, Rafraf M, Somi MH, Homayouni-Rad A, Asghari-Jafarabadi M. Effects of probiotic yogurt consumption on metabolic factors in individuals with nonalcoholic fatty liver disease. *J Dairy Sci* 2014; 97(12): 7386-93.

1- Food Security Research Center, Isfahan University of Medical Sciences, Isfahan, Iran

2- Food Security Research Center, Isfahan University of Medical Sciences, Isfahan AND Department of Community Nutrition, School of Nutritional Sciences and Dietetics, Tehran University of Medical Sciences, Tehran, Iran

Correspondence to: Leila Azadbakht, Email: azadbakht@hlth.mui.ac.ir

4. Sharafedtinov KK, Plotnikova OA, Alexeeva RI, Sentsova TB, Songisepp E, Stsepetova J, et al. Hypocaloric diet supplemented with probiotic cheese improves body mass index and blood pressure indices of obese hypertensive patients--a randomized double-blind placebo-controlled pilot study. *Nutr J* 2013; 12: 138.
5. Valentini L, Pinto A, Bourdel-Marchasson I, Ostan R, Brigidi P, Turroni S, et al. Impact of personalized diet and probiotic supplementation on inflammation, nutritional parameters and intestinal microbiota - The "RISTOMED project": Randomized controlled trial in healthy older people. *Clin Nutr* 2015; 34(4): 593-602.
6. Arora T, Sharma R. Fermentation potential of the gut microbiome: implications for energy homeostasis and weight management. *Nutr Rev* 2011; 69(2): 99-106.
7. Azadbakht L, Nurbakhsh S. Effect of soy drink replacement in a weight reducing diet on anthropometric values and blood pressure among overweight and obese female youths. *Asia Pac J Clin Nutr* 2011; 20(3): 383-9.
8. Miraghajani MS, Najafabadi MM, Surkan PJ, Esmaillzadeh A, Mirlohi M, Azadbakht L. Soy milk consumption and blood pressure among type 2 diabetic patients with nephropathy. *J Ren Nutr* 2013; 23(4): 277-82.
9. Azadbakht L, Esmaillzadeh A. Soy intake and metabolic health: beyond isoflavones. *Arch Iran Med* 2012; 15(8): 460-1.
10. Miraghajani MS, Esmaillzadeh A, Najafabadi MM, Mirlohi M, Azadbakht L. Soy milk consumption, inflammation, coagulation, and oxidative stress among type 2 diabetic patients with nephropathy. *Diabetes Care* 2012; 35(10): 1981-5.
11. Hariri M, Salehi R, Feizi A, Mirlohi M, Kamali S, Ghiasvand R. The effect of probiotic soy milk and soy milk on anthropometric measures and blood pressure in patients with type II diabetes mellitus: A randomized double-blind clinical trial. *ARYA Atheroscler* 2015; 11(Suppl 1): 74-80.
12. Mei L, Zheng P, Yuan J. Probiotics and traditional Chinese medicines for the improvement of obesity: research progress. *Chinese Journal of Microecology* 2013; (2): 233-7.

**How to cite this article:** Haghigatdoost F, Azadbakht L. **Probiotic soy milk and anthropometric measures: Is probiotic soy milk beyond soy milk?** *ARYA Atheroscler* 2015; 11(5): 265-6.