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Aronia Melanocarpa Juice Decreases Body Mass Index and Diastolic Blood Pressure in Overweight Adults

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Increased body weight is the main cause of hypertension, and related cardiovascular disorders [1]. Some studies suggest that polyphenol-rich food can decrease body weight [2], but it should be further investigated. Fruit Aronia melanocarpa is a rich source of polyphenols [3]. Current 4-week human intervention study (n = 115) examined the effects of 100 mL/daily consumption of aronia juice with different polyphenol content, on body mass index (BMI) and blood pressure in overweight adults (BMI = 27.5 kg/m²). The eligible subjects were randomized to consume one of the following: (1) aronia juice with 1177.11 mg polyphenols (AMJ, n = 41), (2) placebo with the same content as AMJ but without polyphenols (PLB, n = 30), (3) juice with 294.28 mg polyphenols obtained mixing 1/4 AMJ with 3/4 PLB (1/4 AMJ, n = 44). At the beginning of the study and after 4 weeks, body weight was measured using bioimpedance analyzer (TANITA Health Equipment H.K. Ltd), and BMI calculated as body weight/height² (kg/m²). Office-based blood pressure was measured in triplicates, by digital electronic monitor (OMRON, HEM-907, Omron Healthcare). Data were analyzed using 2-way ANOVA with repeated measures, in SPSS, considering p values ≤ 0.05 statistically significant. The BMI was decreased upon both AMJ (p = 0.04) and 1/4 AMJ (p=0.050). Diastolic blood pressure (DBP) was decreased upon AMJ (p = 0.02) and 1/4 AMJ (p = 0.04). No changes on the parameters were observed upon PLB. Both juices with different amount of aronia polyphenols were efficient in improving BMI and DBP, while placebo was not, indicating that the health effects of aronia juice are attributed to polyphenols. According to our results, the amount of 295.28 mg of polyphenols daily, contained in 25 mL of aronia juice is with plausible health effects towards CVD.

Biography:

Biljana Pokimica is a PhD student at the Faculty of Biology, University of Belgrade, doing her research at the Institute for Medical Research, investigating the effects of Aronia melanocarpa juice on cardiometabolic risk factors in Wistar rats and human adults. Biljana spent 1 month in Spain (June 2017) at the CEBAS-CSIC, Murcia, on short-term scientific mission of the COST Positive action, learning how to write a review on the effects of plant bioactives on human gene expression.

Biljana was learning laboratory skills during 5 months (October 2014-April 2015) at the Toma Advanced Biomedical Assays Spa, Busto Arsizio, Italy.