

Letter to the Editor

Decaffeinated green coffee bean extract and the components of the metabolic syndrome

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Roshan *et al.*⁽¹⁾ conducted a randomised clinical trial to elucidate the effects of decaffeinated green coffee bean extract (GCE) on the components of the metabolic syndrome (MetS). Although not all the components of the MetS improved by the intervention, GCE administration had a preventive effect on the components of the MetS including insulin resistance, in combination with reducing appetite level. I have two concerns about their study.

First, Sarriá *et al.*⁽²⁾ conducted a cross-over, randomised, controlled study to evaluate the effects of green/roasted coffee blend (35:65) on the main components of the MetS in subjects with appropriate BMI. The authors concluded that regular consumption of the green/roasted coffee blend had a preventive effect for the MetS components, regardless of hypercholesterolaemia. Roshan *et al.* reported that waist circumference, weight and BMI reduction was significant in the intervention group with GCE, and I suppose that obesity itself would be improved by the consumption of green/roasted coffee blend. On this point, Suliga *et al.* investigated the association between coffee consumption, MetS and its components with special reference to BMI⁽³⁾, and lower coffee consumption was significantly associated with incident MetS in subjects with normal and increased BMI. Roshan *et al.* recognised that decaffeinated GCE had an effect of reducing appetite level, and improvement of obesity by the consumption of decaffeinated GCE would be reasonable.

Second, Micek *et al.*⁽⁴⁾ assessed the relationship between tea and coffee consumption and the MetS by a cross-sectional study. Adjusted OR of moderate coffee drinkers for the MetS was 0.83 (95% CI 0.72, 0.97). In contrast, adjusted OR of tea consumption for the MetS did not become significant. They speculated that the antioxidants would protect the MetS by coffee consumption. In addition, the lack of significant association between tea consumption and the MetS was speculated by the composition of polyphenols according to the types of tea. I think that their speculation is in concordance with biological findings of the recent reports by Bravo-Clemente *et al.*^(5,6), and biological mechanism of decaffeinated GCE for preventing the MetS should be specified by further study.

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References

1. Roshan H, Nikpayam O, Sedaghat M, *et al.* (2018) Effects of green coffee extract supplementation on anthropometric indices, glycaemic control, blood pressure, lipid profile, insulin resistance and appetite in patients with the metabolic syndrome: a randomised clinical trial. *Br J Nutr* **119**, 250–258.
2. Sarriá B, Martínez-López S, Sierra-Cinos JL, *et al.* (2018) Regularly consuming a green/roasted coffee blend reduces the risk of metabolic syndrome. *Eur J Nutr* **57**, 269–278.
3. Suliga E, Koziel D, Ciesla E, *et al.* (2017) Coffee consumption and the occurrence and intensity of metabolic syndrome: a cross-sectional study. *Int J Food Sci Nutr* **68**, 507–513.
4. Micek A, Grosso G, Polak M, *et al.* (2018) Association between tea and coffee consumption and prevalence of metabolic syndrome in Poland – results from the WOBASZ II study (2013–2014). *Int J Food Sci Nutr* **69**, 358–368.
5. Baeza G, Sarriá B, Bravo L, *et al.* (2018) Polyphenol content, *in vitro* bioaccessibility and antioxidant capacity of widely consumed beverages. *J Sci Food Agric* **98**, 1397–1406.
6. Gómez-Juaristi M, Martínez-López S, Sarriá B, *et al.* (2018) Bioavailability of hydroxycinnamates in an instant green/roasted coffee blend in humans. Identification of novel colonic metabolites. *Food Funct* **9**, 331–343.