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RETRACTED—Four-weeks intervention with jaboticaba peel lowers MDA levels after post-prandial challenge in healthy adults

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Oxidative stress could play a causative role towards insulin resistance, inflammation and obesity-associated metabolic syndrome[1]. Consumption of berries such as *Myrciaria jaboticaba*, which is rich in anthocyanins and ellagitanins has been associated with health benefits, for instance lowering hepatic and brain oxidative stress by decreasing lipid peroxidation[2,3]. In the present study we aimed to investigate whether 4-weeks intervention of jaboticaba peel (JP) could modulate the postprandial lipid peroxidation, as well as basal metabolic rate (BMR), fat mass (FM) and free-fat mass (FFM). This work was approved by Lund University Ethics Committee (Dnr. 2015/390).

Eighteen healthy adults (7 men; 11 women; age 27·5 ± 1·13 years; body mass index 24·69 ± 0·58 kg.m^{-2}) completed 4-weeks randomized, controlled, cross-over intervention with 28 days washout period between treatments. Participants were randomized to consume 150 ml of water blended with either JP (250 mg polyphenols, 1·8 g sugar and 2·4 g dietary fibers) or control (1·8 g sugar and 2·4 g dietary fibers). During the intervention and wash-out periods participants were instructed to maintain their normal diet and avoid anthocyanins, ellagic-acid, flavonoids and phenols-rich foods (according to a list provided by the study leader). Before and after 4-weeks, participants should come to our clinical facility to have post-prandial study. Venous blood samples were collected at fasting (−30) and at 30, 60, 120 and 180 min after breakfast challenge (50 g available carbohydrates) together with either JP or control drinks. MDA was assessed as a marker of lipid peroxidation in serum using a colorimetric method[2]. In addition, BMR, FM and FFM were assessed using body composition analyzer. Mixed-model analysis of covariance (PROC MIXED) with repeated measures was employed.

The MDA fasting values did not differ after 4-weeks intervention either with the control or JP ($P = 0{\cdot}993$). Changes in serum MDA-levels were affected by the treatment ($P = 0{\cdot}003$) but had no time ($P = 0{\cdot}293$) and time × treatment interaction ($P = 0{\cdot}437$). Based on least square means, the JP intervention significantly lowered serum MDA levels by 8·3 % compared to the control. No changes were observed in BMR ($P = 0{\cdot}153$), FM ($P = 0{\cdot}200$) or FFM ($P = 0{\cdot}144$).

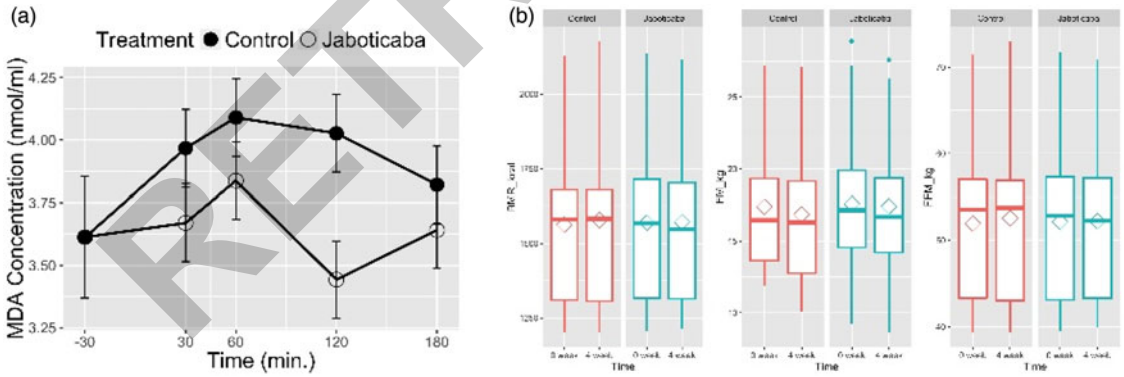

Fig. 1. (a) Postprandial MDA concentration after breakfast challenge on the last-day of 4-weeks intervention. (b) BMR, FM and FFM before and after 4-weeks intervention.

To our knowledge, this is the first study addressing effects of JP intervention on oxidative stress and body composition in humans. We conclude that 4-weeks intake of JP reduced postprandial oxidative stress as indicated by lower MDA levels without affecting BMR, FM and FFM.

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1. Furukawa S, Fujita T, Shimabukuro M *et al.* (2004) *J Clin Invest* **114**(12), 1752–1761.
2. Batista ÂG, Lenquiste SA, Cazarin CBB *et al.* (2014) *J Funct Foods* **6**, 450–461.
3. Leite-Legatti AV, Batista ÂG, Dragano NRV *et al.* (2012) *Food Res Int* **49**, 596–603.

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