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Effect of Brown Rice Consumption on Inflammatory Marker and Cardiovascular Risk Factors among Overweight and Obese Non-menopausal Female Adults

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Effect of Brown Rice Consumption on Inflammatory Marker and Cardiovascular Risk Factors among Overweight and Obese Non-menopausal Female Adults.

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Author information

Abstract

BACKGROUND: Brown rice (BR) is unpolished rice with various beneficial compounds such as vitamins, magnesium and other minerals, dietary fiber, essential fatty acids, γ -oryzanol and γ -aminobutyric acid. In the present study, we compared the effects of white rice (WR) and BR on inflammatory marker high-sensitivity C-reactive protein (hs-CRP) and cardiovascular risk factors among non-menopausal overweight or obese female.

METHODS: In a randomized cross-over clinical trial, 40 overweight or obese (body mass index (BMI) >25) women were randomly allocated to group 1 (n = 20): Treatment with BR diet and group 2 (n = 20): Treatment with WR diet for 6 weeks (first intervention period). Two participants in group 2 dropped out during this period. After a 2-week washout period, individuals were switched to the alternate diet for an additional 6 weeks (second intervention period) and three subjects in group 2 did not follow this period and eliminated, finally this study was completed with 35 subjects (group 1 = 20 and group 2 = 15). Each one was instructed to consume 150 g cooked WR or BR daily in each intervention period.

Cardiovascular risk factors including BMI, waist and hip circumference, blood pressure, serum lipid profiles, fasting blood glucose (FBG) and hs-CRP as an inflammatory marker, were measured 4 times (in study week 0, 6, 8, 14).

RESULTS: BR diet in comparison with WR diet could significantly reduce weight, waist and hip circumference, BMI, Diastole blood pressure and hs-CRP. No significant differences between the two diets were found regarding lipid profiles and FBG.

CONCLUSIONS: The present results suggest that BR replacement in the diet may be useful to decrease inflammatory marker level and several cardiovascular risk factors among non-menopausal overweight or obese female.

KEYWORDS: Brown rice; female; inflammation; obese; overweight; white rice

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Study period	Run 1	Continued/enrolled	Enrolled	Control intervention								
Week	1	2	3	4	5	6	7	8	9	10	11	12
Group 1	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
Group 2	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
Group 3	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
Group 4	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████

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