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The effects of meat reduction on weight and metabolic parameters including: BMI, body composition, blood glucose concentration and total cholesterol

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There is a considerable amount of literature that documents the encouraging effects of a plant-based diet on weight and the negative impact of high meat consumption on the risk of developing metabolic syndrome. The purpose of this pilot study was to examine the effects of substituting meat products with plant-based vegan foods on various health parameters including BMI, body composition, blood glucose concentration, and total cholesterol. Within a quasi-experimental pre-post study design, 7 overweight and obese individuals, who consumed meat products daily, took part in a four-week dietary intervention. All participants were asked to reduce their meat consumption as much as possible and to consume plant-based food; on an ad libitum basis. Pre-test and post-

test measurements included weight, BMI, body composition, fasting, blood glucose and total cholesterol. All participants were offered weekly nutritional counselling sessions via Skype and were asked to complete an evaluation questionnaire to assess dietary adherence at the end of the study. The paired t-test determined statistically significant differences ($P < 0.05$) in weight and BMI. In addition, a statistical trend was seen in body fat percentage loss ($p = 0.074$). However, blood glucose and total cholesterol results were insignificant. Overall, positive trends suggested that the meat reduction and the adoption of a plant-based diet led to improvements in weight and BMI within the space of the month- without the need of energy restriction.

The significant results support the data currently available suggesting that a plant-based dietary intervention has the potential to be effective for weight maintenance. The data from this study ultimately adds to the emerging literature on the benefits of plant-based foods

Variable	n	Pre-Intervention (Mean ± SD)	Post-Intervention (Mean ± SD)	Mean Change	p-value*
Weight, kg	7	92.97 ± 15.57	90.97 ± 15.01	2.00	0.047
BMI, kg/m ²	7	33.43 ± 4.12	32.70 ± 3.98	0.73	0.039
WHR	7	0.86 ± 0.05	0.86 ± 0.03	0.00	0.840
Body Fat %	7	46.16 ± 6.72	44.86 ± 7.72	1.30	0.074
Blood Glucose, mmol/L	7	4.20 ± 0.34	4.38 ± 0.52	-0.18	0.385
Total Cholesterol, mmol/L	7	5.25 ± 0.69	4.29 ± 1.62	0.96	0.151

*Paired t-test with p-value significant at < 0.05

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