Associations between depression and patient adherence in a weight loss intervention

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Background – Depression has a profound and complex association with coronary risk, both as an independent risk factor and indirectly through its effects on determinants of coronary risk such as BMI, diet, physical activity, smoking and medication treatment fidelity. Of particular interest is the impact of depression symptoms on initiation of and adherence to behavioural change to reduce coronary risk.

Objective – To investigate the association of depression with dietary adherence and weight loss outcomes in a community-based weight loss intervention.

Design – A group of 64 overweight (BMI >27), otherwise healthy adults, were recruited and randomised to follow either their usual diet, or an isocaloric diet in which saturated fat was replaced with MUFA to 50% by adding macadamia nuts to the diet. Subjects were assessed for depressive symptoms at baseline and at ten weeks using the Beck Depression Inventory (BDI-II). Both control and intervention groups received advice on National Guidelines for Physical Activity and adhered to the same protocol for food diaries and trial consultations. Anthropometric and clinical measurements were taken at baseline and 10 weeks.

Outcomes – There was a significant correlation (R=-0.38, p<0.05) between BDI-II scores at baseline and duration of participation in the trial. Subjects with a baseline BDI≥10 (moderate to severe depression symptoms) were more likely to dropout of the trial before 10 weeks (p<0.001). The BDI-II scores in the intervention (monounsaturated fat) diet group decreased, but increased in the control group over the 10-week period. Univariate analysis of variance confirmed these observations (adjusted R² = 0.257, p = 0.01). Body weight remained static over the 10-week period in the intervention group, corresponding to a relative increase in the control group (adjusted R² = 0.097, p = 0.064).

Conclusion – Depression symptoms have the potential to affect adherence to diet and physical activity-based risk reduction interventions, and may therefore be useful screening criteria.