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# Effect of Vitamin D status on weight loss and biochemical changes in a clinic setting

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**Background:** Animal studies support a role for vitamin D in energy regulation; however, whether weight loss through lifestyle intervention is influenced by vitamin D status under real world conditions remains unknown.

**Objectives:** The primary purpose of this study was to investigate the effect of baseline vitamin D status and vitamin D supplementation on percentage body weight loss and abdominal circumference in overweight and obese adults participating in a 3-month weight-loss program.

**Material and methods:** This study is a retrospective analysis of a clinical databank collected from a series of medical centres across Sydney. Clinical parameters including blood pressure, fasting lipid profile (Total cholesterol, LDL-cholesterol, HDL-cholesterol and TG), serum 25

hydroxyvitamin D (25OHD) as well as anthropometric measurements (weight, height, and waist circumference) were collected from both baseline and 3-month follow up consultations. Some patients with low baseline 25OHD concentrations received vitamin D supplements, according to the preference of their primary care physician.

**Results:** Subjects who had sufficient baseline 25(OH)D levels showed a significantly greater body weight loss and waist circumference reduction than those who had a deficient baseline

25(OH)D and were not supplemented. Importantly, deficient patients who were supplemented with daily vitamin D (2000 or 4000 IU) showed a significantly greater decrease in body weight (-5.3 vs. -2.2 kg; $p<0.01$) and waist circumference (-4.2 vs. -1.2 cm $p<0.01$). We also observed a greater decrease in total cholesterol and LDL in those subjects who were deficient at baseline and supplemented than in those who were not supplemented. Blood pressure and triglyceride levels were not affected by the level of supplementation in subjects that were deficient at baseline.

**Conclusion:** Because obesity and vitamin D insufficiency are increasingly prevalent worldwide, a better understanding of the nature of the relation between them remains an important area of investigation. In a real clinical weight-loss setting, adequate vitamin D status at the end of the treatment period was associated with significantly greater weight loss and reduction of waist circumference.

## Biography

Myriam Abboud has completed her PhD in September 2014 at the age of 28 years from the University of Sydney School of Medicine. The main focus of her research is investigating the link between vitamin D and obesity. She has published a number of articles on these topics in reputable journals. She is a Clinical Dietician. She graduated from the University of Sydney with a Master's Degree in Nutrition and Dietetics. She started her career in Australia where she founded and ran her own nutrition clinic, which offered nutrition and wellness counselling to individuals and corporations.

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