

THE KETOGENIC DIET WITH SUPPLEMENTATION OF PHYTOEXTRACTS FOR SHORT-TERM WEIGHT REDUCTION

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Introduction

The aim of this work was that of testing the efficacy of a ketogenic diet combined with phytoextracts supplementation for weight reduction. VLCDs (Very Low Carbohydrate Diets) induce a metabolic state (ketosis) which impairs the efficiency of the transformation of nutrients into energy and this contradicts the concept that "a calorie is a calorie".

Materials and Methods

Inclusion criteria were the following: age ranging between 25 and 75, BMI from 25 to 40, a manifest desire to lose weight and no pathologies in progress. Exclusion criteria were the following: use of medicines in the previous 2 months, pregnancy and lactancy, use of slimming diets or medicines for weight reduction in the 5 preceding months. 40 subjects were recruited, 34 completed the observation (16 days) and underwent assessment of anthropometric and hematochemical parameters and of ketonuria. The distribution of nutrients (proteins, carbohydrates and fats) in terms of percentage in relation to the total calorie intake (4561 kJ/die) was respectively 36, 12 and 52. The diet also contemplated the ingestion of three mixes of phytoextracts, depurative, diuretic and tonic, with the aim of mitigating side-effects.

Results

The data obtained were analyzed by means of the t-test. The reduction in weight and in BMI was 6%, the fat mass was reduced by 22%, base metabolism increased by 8%. As far as circumference values are concerned, the reductions observed were 8% in the waist circumference, 4% in the hips and 9% in the thighs. The hematochemical evaluation showed a reduction in average glycemia and in total cholesterolemia (both 13%), while renal and liver function remained unaltered.

Conclusions

The data obtained from this study and from others suggest that VLCDs prove efficacious in improving some hematochemical and anthropometric parameters without producing any undesired effects. Moreover, adherence to the ketogenic diet seems to have improved with the use of phytoextracts which mitigate the typical side-effects.

General characteristics (n = 34)				
Subjects, gender, n (%)		Median and DS of age expressed in years		
Females, 21, (62)		42.3 (12.6)		
Males, 13, (38)		34.3 (9.7)		
Anthropometric and Hematochemical assessment				
Assessments	Day 1 Median (DS)	Day 16 Median (DS)	Variation [%]	p value
Mass, kg	80.9 (19.5)	75.7 (17.5)	- 6.2	0.049
BMI, kg/m ²	27.5 (5.1)	25.7 (4.6)	- 6.2	0.039
Fat Mass, %	37.3 (12.9)	29.5 (13.3)	- 22.8	0.016
Base Metabolism, kcal	1603.7 (235.2)	1744.4 (270.6)	+ 8.7	0.088
Waist Circumference, cm	89.1 (14.8)	81.4 (13.5)	- 8.5	0.058
Hips Circumference, cm	104.9 (16.9)	100.4 (16.6)	- 4.35	0.072
Thigh Circumference, cm	65.5 (12.4)	59.8 (12.1)	- 8.67	0.069
Glycemia, mg/dl	99.7 (16.4)	86.3 (13.8)	- 13.1	0.041
Total Cholesterol, mg/dl	194.6 (29.5)	168.3 (25.4)	- 13.2	0.029
HDL Cholesterol, mg/dl	47.3 (13.3)	49.3 (15.1)	+ 4.5	0.074
Triglycerides, mg/dl	101.1 (49.5)	71.4 (20.3)	- 24	0.067
Creatinine, mg/dl	1 (0.4)	0.9 (0.3)	- 4.5	0.125
Uric Acid, mg/dl	5.26 (0.1)	5.18 (0.1)	- 2.2	0.172
S-GOT/S-AST, U/l	20.1 (7.4)	22.1 (7.2)	+ 25	0.226
S-GPT/S-ALT, U/l	27.9 (11.7)	23.2 (6.3)	+ 8.3	0.221
S-γGT, U/l	25.9 (5.4)	23.8 (4.9)	- 6.3	0.331