

European Guidelines for Obesity Management in Adults with a Very Low-Calorie Ketogenic Diet: A Systematic Review and Meta-Analysis.

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Obes Facts 1112 ofa 101469429 OFA Obesity Facts 1662-4025 1662-4033 Karger Publishers PMC8138199 PMC8138199.1 8138199 8138199 33882506 10.1159/000515381 ofa-0014-0222 1 Guidelines European Guidelines for Obesity Management in Adults with a Very Low-Calorie Ketogenic Diet: A Systematic Review and Meta-Analysis Muscogiuri Giovanna a b El Ghoch Marwan c Colao Annamaria a b Hassapidou Maria d Yumuk Volkan e Busetto Luca f a Dipartimento di Medicina Clinica e Chirurgia, Sezione di Endocrinologia, Università Federico II di Napoli, Naples, Italy b Cattedra Unesco – Educazione alla salute e allo sviluppo sostenibile, Università Federico II, Naples, Italy c Department of Nutrition and Dietetics, Faculty of Health Sciences, Beirut Arab University, Beirut, Lebanon d Department of Nutritional Sciences and Dietetics, International Hellenic University, Thessaloniki, Greece e Division of Endocrinology, Metabolism, and Diabetes, Istanbul University Cerrahpaşa Medical Faculty, Istanbul, Turkey f Dipartimento di Medicina, Università degli Studi di Padova, Padova, Italy 4 2021 21 4 2021 14 2 382270 222 245 19 1 2021 18 2 2021 2021 21 04 2021 27 05 2021 05 04 2026 Copyright © 2021 by S. Karger AG, Basel 2021 Background The very low-calorie ketogenic diet (VLCKD) has been recently proposed as an appealing nutritional strategy for obesity management. The VLCKD is characterized by a low carbohydrate content (<50 g/day), 1–1.5 g of protein/kg of ideal body weight, 15–30 g of fat/day, and a daily intake of about 500–800 calories.

The aim of the current document is to suggest a common protocol for VLCKD and to summarize the existing literature on its efficacy in weight management and weight-related comorbidities, as well as the possible side effects.

This document has been prepared in adherence with Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines. Literature searches, study selection, methodology development, and quality appraisal were performed independently by 2 authors and the data were collated by means of a meta-analysis and narrative synthesis.

Of the 645 articles retrieved, 15 studies met the inclusion criteria and were reviewed, revealing 4 main findings. First, the VLCKD was shown to result in a significant weight loss in the short, intermediate, and long terms and improvement in body composition parameters as well as glycemic and lipid profiles. Second, when compared with other weight loss interventions of the same duration, the VLCKD showed a major effect on reduction of body weight, fat mass, waist circumference, total cholesterol and triglyceridemia as well as improved insulin resistance. Third, although the VLCKD also resulted in a significant reduction of glycemia, HbA1c, and LDL cholesterol, these changes were similar to those obtained with other weight loss interventions. Finally, the VLCKD can be considered a safe nutritional approach under a health professional's

supervision since the most common side effects are usually clinically mild and easily to manage and recovery is often spontaneous.

The VLCKD can be recommended as an effective dietary treatment for individuals with obesity after considering potential contra-indications and keeping in mind that any dietary treatment has to be personalized.

The assessment of the efficacy of VLCKD on body weight, body composition, glycemic and lipid parameters in overweight and obese subjects: a meta-analysis (CRD42020205189).