

Fat-soluble vitamins in dietary supplements. Roles in the prevention of cardiovascular disease and cancer.

Quiroga AD, Comanzo CG, Vera MC, Lucci, A, Lorenzetti, F, Ferretti A, Ceballos MP, Alvarez ML, Carrillo MCC

Instituto de Fisiología Experimental (CONICET). Fac. de Cs. Bioquím. y Farm. – UNR. Rosario, SF.

Introduction. Vitamins are essential components of the diet that do not provide calories, and that are necessary for the maintenance of metabolic and growth functions. The daily exogenous contribution is necessary through a varied and balanced diet or, in certain cases, through vitamin supplements. The fat-soluble vitamins (A, D, E and K) are absorbed in the gastrointestinal tract by passive mechanisms and then transported to the bloodstream in chylomicrons. They are usually stored in the liver, adipose tissue and muscle, and eliminated with feces. Generally, vitamins are used as reinforcement therapy in patients with complex diseases whose course and/or treatment puts them in a state of general discomfort. Methods. In this work, the actions of fat-soluble vitamins are listed, focusing on the negative effects of their intake. Results. In recent years side non-beneficial effects of vitamins have been reported when used as a primary treatment support, partially or completely blocking the effects of the drugs used in those cases. Indeed, most results on vitamins tested so far as a supportive treatment of cardiovascular disease and cancer showed similar contradictory outcomes. Conclusions. Findings from our own and other authors reveal that supportive therapies with vitamins are not always safe, as they could put patients' lives at risk. Vitamins are more than just harmless compounds that help the body overcome or prevent diseases. Vitamins are very active, and play cellular roles that have an impact on the overall outcome of a treatment. Therefore, it is necessary to start paying attention to the overall treatment layout, since vitamins might have a negative role on the final outcome.