

Vitamin D3: a pleiotropic agent to ensuring immune and bone health. What about bioavailability and improved formulations?

Andrea Fratter

Pharm. D, Post-graduation in Clinical Pharmacology, University of Padova, Italy

Abstract

Nutraceutical products represent a great opportunity to improve general health and well being status of the people, according to a correct health education and concept of diseases prevention. In this perspective, nutraceuticals can represent a brilliant weapon to restore physiologic functions and co-operate with medical therapy to reduce prescription of chronic pharmacologic treatments. Facing this perspective, particularly interesting even to reduce Healthy National System overload and economical failure of assistance, the role of the formulation in developing effective nutraceutical products, remains largely underestimated. The absence of a clear regulation for nutraceutical products formulative requirements, that in the most part of the world are categorized as simple nutritional products or foods, creates the conditions for the companies to avoid respecting the minimal good formulative requirements to guarantee efficacy. In details, especially botanicals are often involved in low absorption and poor bioavailability because of the complexity of the phyto-complex and the low water solubility. The paradox is that it is possible to find in the market two different formulations with the same actives and different formulative approaches, one correctly formulated and the other completely unfit that declare the same health claims and both perfectly respecting the law. Which is the main strategy to guarantee nutraceutical efficacy and full bioavailability in absence of clear guide-lines? The answer is coming back to human gastro-enteric physiology and accordingly adopting a comprehensive and straightforward processes and strategies of formulation design and testing, inspired by pharmaceutical experience. As major paradigm of these issues, the author will report the facts regarding bioavailability of Vitamin D3 and the most promising formulative and delivery approaches to improve it. Author will dedicate large space to the bibliographic analysis and testing strategies both in vitro and in vivo to substantiate formulative approaches proof of evidences.

Biography:

Andrea Fratter is a nutraceutical scientist. His career developed in the field of innovation technology and improved formulations applied to nutraceutical products and medicinal foods, in the most recognized and excellent third-party companies of Italy. His major expertise is dedicated to delivery systems conceptualization and designing and technological strategies to improve bioavailability of botanicals and poorly absorbed molecules. He's author of more than 20 international granted patents on the mentioned subjects and created several best sellers' products in Italy and outside Italy. He's also author and co-author of several scientific original papers published in international indexed and impacted journals in the afore mentioned areas. Andrea Fratter is Lecturer at Master of Nutraceutical products, University of Pavia and Clinical Phytotherapy at University of Padova, Italy