Abstract

Introduction: The software applications utilized to assess dietary intake usually focus on macro- and micronutrients, but not on other components of the diet with potential beneficial effects on health, which include the carotenoids. The degree to which each carotenoid exerts diverse biological activities differs and, thus, it is in our interest to know their composition in foods on an individual basis. Objective: To develop a software application with individualized data on carotenoids that enables the calculation of their dietary intake and consultation of the contents of these compounds in foods. Material and methods: Software application developed with Java 7, which includes a database of the carotenoids (lutein, zeaxanthin, lycopene, -cryptoxanthin, -carotene and -carotene) in foods (including those that are major contributors to carotenoid intake in Europe), generated by HPLC. The variables include those relative to the foods, subjects and diets that are necessary to provide accurate information on the content of carotenoids in foods and to enable the calculation of their intake. Results: The software application enables the calculation of the dietary intake of individual carotenoids from 128 foods (raw and cooked), and their contribution to vitamin A intake, in the two forms employed at the present time: retinol equivalents (RE) and retinol activity equivalents (RAE). Conclusions: This software application is a dynamic, specific and accurate tool for the consultation of carotenoid concentrations in foods and the calculation of their intake, aspects that are essential in research studies on diet and health.

Keywords