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Running title: Food synergies and micronutrient bioavailability

Abstract

Plant foods are endowed with micronutrients but an understanding of bioavailability is essential in countries primarily dependent on plant based foods. Bioavailability depends majorly on food synergies. This review examines the nature of certain food synergies and methods to screen and establish it as a strategy to control micronutrient deficiency in the populations. Strong evidence on the synergistic effect of inclusion of vitamin C rich fruits and non-vegetarian foods in enhancing the bioavailability of iron has been demonstrated. Fat is found to be synergistic for vitamin A absorption. Red wine and protein have been explored for zinc absorption and effect of fat has been studied for vitamin D. Methods for screening of bioavailability, and biomarkers to demonstrate the synergistic effects of foods are required. Translation of food synergy as a strategy requires adaptation to the context and popularization of intelligent food synergies.

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