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Evaluation of vitamin D3 concentration in canned fish, distributed in the market in Iran

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F ish and its products are the richest sources of vitamin D_3 . Concerning the lack of information on the concentration of vitamin D_3 content of the commercial canned fish products in Iran and incomplete native food composition tables, present study aimed to investigate the frequency distribution of vitamin D_3 in the different kinds of canned fish products offered in the Isfahan market. Commercial canned fish from 10 different common brands containing 5 certain types of fish are collected from the market. Samples undergone oil extraction and the extracted oil was diluted to 125 times in methanol and was used for vitamin D_3 measurement by RP-HPLC. The limit of detection (LOD) and limit of quantification (LOQ) calculated as 0.05 and 0.04 µg/100 g, respectively. Repeatability and recovery were obtained as 0.18 and 109 respectively. Statistical analysis was performed using Mini Tab program Microsoft Excel. The highest and the lowest concentration of vitamin D_3 were measured in canned tuna in vegetable oil (8.51±3.55 µg/100 gr) and canned tuna in brine (0.047±0.3 µg/100 gr), respectively. The results of this study showed that commercial canned fish, especially the ones which have oily medium are rich sources of vitamin D3. Due to the frequent vitamin D_3 deficiency in Iran, declaration of the vitamin D_3 content of these products in their attached food composition table can promote its community usage. Especially, for the individuals that suffer from vitamin D_3 deficiency, canned fish can be introduced as affordable and suitable food source of this vitamin.

Biography

Maryam Mirlohi has completed her PhD from Isfahan University of Technology. She has been working as an academic in Isfahan University of Medical Sciences. She has published more than 40 papers in the international journals and has been serving as the Head of Food Sciences and Technology department at the School of Nutrition and Food Sciences in the Isfahan University of Medical Sciences.

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