

COD LIVER OIL AS A NATURAL SOURCE OF VITAMIN D STATUS IN POPULATION OF NORTHERN NORWAY AND ITS IMPORTANCE IN THE DAILY FOOD DIET IN POPULATIONS DURING THE COLD SEASON

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Abstract

This paper is comparative review of two studies by Norwegian scientists [16, 17]. It aims to highlight the importance of using cod liver in the food diet as a natural source of vitamin D, especially in countries with reduced sunlight where vitamin D synthesis from the skin is in limited quantities.

The two studies are conducted in different areas of Norway, assessing vitamin D status in this population and the impact of cod liver and fresh cod-liver oil on the plasma level of vitamin D metabolites in an area with high consumption of these foods was the aim of the two studies. In one is provided one meal of cod liver and in the other were offered three meals of cod liver. Blood samples were collected before the first meal, after 12 h and 4 days after the last meal, these were analyzed for the vitamin D metabolites 25-hydroxyvitamin D(25(OH)D) and 1,25-dihydroxyvitamin D(1,25(OH)2D). All participants answered a semi-quantitative food-frequency questionnaire, to estimate usual daily nutrient intake. Among 33 participating subjects in Tromsø, 69.7% had baseline plasma 25(OH)D concentrations below 50 nmol/L and for onequarter of the subjects < 37.5 nmol/L. Who take cod-liver oil supplements had higher baseline 25(OH)D plasma levels compared to those reporting not doing so. In Skjervøy 9.9 µg is the median daily vitamin D intake. Subjects with baseline 25(OH)D level below 50nmol/L was 15.4% and none were below 37.5nmol/L. The mean total intake of vitamin D in the three servings was 272 µg (standard deviation 94 µg), ranging from 142 to 434 mµg. In conclusion, it was observed that subjects who consumed foods rich in cod liver and fresh cod liver oil more often during winter maintained satisfactory levels of vitamin D in their blood.

From these studies we can conclude that using cod liver makes it possible to meet the body's need for vitamin D not only in northern European countries, bit as well as in other places during the cold season, without the need to take vitamin D supplements.

Key words: 25-hydroxy vitamin D, Cod liver, Traditional, Diet, Arctic diet.