Reference:

Nutrient Intake and Risk of Non-Hodgkin's Lymphoma


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Summary:

In this population-based study, the dietary intake of various nutrients as well as the consumption of marine-derived omega-3 fatty acids and fish consumption was compared in 591 cases of non-Hodgkin's Lymphoma (NHL) and compared to 460 healthy controls from a Swedish population (residents aged 18-27 years). A highly-significant inverse relationship between the intake of marine-derived omega-3 fatty acids as docosahexaenoic acid (DHA) plus eicosapentaenoic acid (EPA) combined and the risk of NHL was observed. With increasing intakes of DHA/EPA (combined) of >300 mg per 1000 kcal, a 40% lower risk of NHL was indicated as compared to those consuming less than 100 mg per 1000 kcal. Interestingly, no significant relationship between the consumption of total omega-3 fatty acids (which would include DHA/EPA plus a-linolenic acid which is consumed in much higher amounts than DHA/EPA) or omega-6 fatty acids and the risk of NHL was found. In addition, the authors reported that higher consumptions of fish (including salmon, mackerel, herring, cod) were also inversely correlated in a significant manner with the risk of NHL.

(It is noteworthy that the paper reports fish consumptions in fish servings/day ranging from <1.5 up to =3.0 in the higher intake sector. Upon evaluation of this paper, the DHA/EPA Omega-3 Institute contacted the lead author regarding an apparent error and has been assured by the lead author that the reported fish servings ‘per day’ as reported should actually have been in fish servings ‘per week’.)
**Non-Hodgkin's Lymphoma (NHL)** – Lymphomas are cancers of the immune system involving lymphocytes (white blood cells) which can be sub-divided into non-Hodgkin's lymphomas (NHL) and Hodgkin's disease. In NHL, the white blood cells can progress abnormally within the lymph nodes and can also involve other organs associated with the immune system. While it may occur at any age, deaths due to NHL occur more often amongst the elderly (over the age of 65 years). Although a relatively uncommon cancer, the incidence of NHL is increasing rapidly in North America for unknown reasons.

**Dr. Holub's Comments:**

Considering the surge in the frequency of NHL in North America and elsewhere during recent years, potential dietary strategies and public health advice for reducing the development of NHL are of considerable interest. This population-based study is therefore of potential importance in this regard. The higher intakes of marine-derived omega-3 fatty acids which appear to be protective against NHL (>300 mg per 1000 kcal) would amount to approximately 650 mg of DHA/EPA (combined) per day based on a daily caloric intake of approximately 2,150 kcal per day. It is interesting to note that this intake (650 mg/day) is the recommended acceptable intake suggested at the ISSFAL workshop held in 1999 in Bethesda, Maryland by a group of scientific experts who met to evaluate omega-3 fatty acids for overall health (J. Am. Coll. Nutr. 18: 487-489, 1999).

As noted (see above), in Prof. Holub's conversation and correspondence exchange with Dr. Ellen Chang (lead author of this new release), = 3.0 servings of fatty fish per week (and not per day as stated in the original text of the published paper) provided an approximate 50% lower observed incidence of NHL as compared to fatty fish servings of <1.5 per week.