

Sub-optimal serum levels of omega 3 and vitamin D appear to be common among cancer survivors – a pilot study

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Background Vitamin D deficiency and diets low in omega 3 are associated with a higher cancer risk and worse outcomes after cancer. Understandably some survivors are concerned that they have optimal levels and wish to empower themselves with knowledge of their individual micro-nutrient profile.

Methods. An online micro-nutrient testing service has been established via our lifestyle and cancer information website (Cancernet.co.uk). Known as the cancer risk nutritional profile, via whole blood, it measures: *Essential minerals* Ca, Mn, Zn, Cr, Cu, Se and red blood cell Mg plus; the *vitamins* retinol, alpha-carotene, beta-carotene, alpha-tocopherol, beta-tocopherol, vitamin C and D; *antioxidants* lycopene and lutein; glutathione, superoxide dismutase antioxidant enzymes essential fatty acids. The service started in 2009 and we report the results of the first 40 patients.

Results 95% (38 of the 40) patients had sub-optimal levels in one or both of the long chain omega-3 fatty acids eicosapentaenoic acid (EPA) or docosahexaenoic acid (DHA). 92% (37 of the 40) patients had levels of 25 hydroxyl vitamin D lower than 75 nmol/l with 29 (73%) having levels lower than 50 nmol/l.

Conclusion Although this is a small self selected cohort of patients, the high percentage with sub-optimal vitamin D and Omega-3 is striking. This pilot study has prompted our editorial board to emphasise advice regarding increasing safe sun exposure and intake of omega-3 rich foods such as fish, walnuts and linseeds. At the Primrose Research Unit we are now planning an evaluation of vitamin D and essential fatty acids levels in a large cohort of breast, colorectal and prostate cancer survivors.