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Fruit and Vegetable Intake and Cancer Risk

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Boffetta, P. Fruit and vegetable intake and overall cancer risk in the European Prospective Investigation Into Cancer and Nutrition (EPIC) J Natl Cancer Inst 2010;102 (8):1-9

The above study has created a lot of discussion about the importance, or lack thereof, of fruit and vegetable intake. Once again this situation points out the importance of both reading the full study and also knowing how to critique the scientific methodology.

First of all let's start by quoting the actual study. The study itself reports a **STATISTICALLY SIGNIFICANT** reduction in cancer risk with increased intake of fruits and vegetables.

“A statistically significant reduction in overall cancer risk was associated with increased intake of fruits and vegetables.”

“Our analysis of a prospective study from 10 European countries showed an inverse association between cancer risk and higher intake of fruits and vegetables, notably intake of vegetables.”

Considering how low the **ACTUAL** fruit and vegetable intake was even in what they label the “high intake” group this is almost incredible.

The participants in this study were categorized from “low intake” at 231 grams of fruit and vegetable intake per day to “high intake” at 511 grams of fruit and vegetable intake per day. This means the “low intake” group consumed the equivalent of about one large apple and one carrot **PER DAY** and the “high intake” group perhaps one large apple, one pear, and two carrots - **PER DAY** - and this was the **HIGH** intake group!!!

They did **NOT** categorize intake based on what human's genetically require, they simply rated intake amounts based on comparing subjects to each other. Our Paleolithic ancestors consumed an average of 1500-2000 grams of vine ripened, locally grown, 100% organic, 100% pesticide and herbicide-free whole fruits and vegetables per **DAY!!** This means the human genetic requirement is about **4 TIMES GREATER THAN THEIR “HIGH INTAKE” GROUP**. This alone totally invalidates the study!!

Add to this the fact that they did not control for type of fruit or vegetable consumed, whether they were organic or not, whether they contained cancer causing pesticides and herbicides and fertilizers, or what the actual nutrient content was.

Further all fruit and vegetable intake was self reported so the truth is we don't know what

was ACTUALLY consumed.

They say their results were adjusted for lifestyle variables like smoking, alcohol consumption, etc. but all this was ALSO SELF REPORTED meaning that they don't have any data that can be validated. Most importantly the study was only 8 years long. There was no cancer screenings done at the beginning of the study (at baseline) so we have no way of knowing how many of the cancers that did show up were already present but undetected. We do know that cancer takes years and often decades to become clinically evident so the idea that an 8 year study could provide any valid data on this issue is highly suspect to say the least.

Further, there was no data collected regarding lifestyle habits in the years prior to the study and of course it is this data which is most significant with respect to the development of cancer during the 8 year study.

Even with all this they still found a STATISTICALLY SIGNIFICANT REDUCTION IN CANCER IN THIS STUDY!!

Over the study period of 8 years within the 470,000 subjects there were approximately 30,000 reported cases of cancer. This means that over 8 years a full 15% were DIAGNOSED with cancer. The real question is how many of these people had cancer at the beginning of the study. The real probability is virtually ALL OF THEM!!

The authors seem to go out of their way to minimize the importance of their statistically significant findings. Why would they state that only 2.5% of cancers could have been prevented if people moved up just one of the five categories in terms of intake? This represents almost 1000 prevented deaths, untold human suffering and millions of dollars of medical intervention. If a drug got these results it would be on the front page of every newspaper in the world and the drug company would make billions overnight!

Imagine how many lives would be saved if people actually consumed the amount of fruits and vegetables that are genetically required!!

Further weaknesses of this study are that subjects were not randomly assigned to groups; this is an observational study dependent upon self reporting.

What we need is a randomized controlled study where subjects are assigned to a control group or to an intervention group that has a specific diet to follow which tracks actual intakes of both food stuffs and nutrients.

Without this type of data available the only source of information that is valid is studying human populations with very low incidence of cancers and other chronic lifestyle illness.

This work has been done and is the basis of the Innate Diet. Without any doubt the human beings with the lowest levels of cancers and other illnesses and the highest levels of health and vitality are our hunter-gatherer ancestors. These people ate the genetically congruent diet for humans (The Innate Diet). They consumed nothing other than nuts and seeds, fruits and vegetables, and organic, grass fed wild game.

This study shows a clear and statistically significant dose specific effect of fruit and vegetable intake and reduced cancer risk. The problem is that they completely fail to take into account what amount of fruit and vegetable intake is actually required for wellness and prevention.

Just one more study validating the Innate Choice Essential Nutrient System and The Innate

Diet!

We hope this clears up any confusion. Please also remember that we cannot look at nutrition in isolation. We must understand that how we eat, move, and think all combine to determine what level of health we genetically express.

In order to be well, we must eat well, move well, and think well at the same time for an extended period of time.

IF WE LOOK AT HEALTHY HUMAN BEINGS, THE ONES WITH THE LOWEST RATES OF CANCER AND ALL OTHER CHRONIC ILLNESS WE CAN VERY EASILY DETERMINE THAT THE INNATE DIET, THE DIET OF OUR ANCESTORS, THE GENETICALLY CONGRUENT DIET, RESULTS IN THE LEAST INCIDENCE OF CHRONIC ILLNESS AND THE GREATEST LEVELS OF HEALTH, FUNCTION , VITALITY, AND DECELERATED AGING.