

You Should Say: Please Pass the Broccoli, Not I'll Pass

'Please pass the broccoli': not something that many mothers hear from their children. In fact, not many children appear to like any green vegetables let alone broccoli. This is not important at such a young age, but there comes a time when the health benefits that broccoli brings become almost essential to your good health and well being. Parents are right, but your children won't believe you.

Some say that the nutritional punch of broccoli is stronger than that of any other vegetable. Is this claim justified? Let's have a look at the evidence and the facts and you can judge for yourself. First the 'ordinary' nutrients of broccoli: vitamin C (more than oranges) and A, folic acid and calcium and also lots and lots of fiber. However, this wonderful vegetable contains not only high levels of calcium, but is also the one of the richest vegetable sources of magnesium. Calcium needs magnesium in order to be properly incorporated into your bone structure, and so broccoli is a very important calcium/magnesium source for vegans that do not drink milk or eat any other dairy products.

It is also rich in protein, containing 3% by weight and is also rich in iron. It is therefore an important part of the diet of women during menstruation when iron is important to enable the blood to maintain its proper erythrocyte levels. A deficiency of iron in the diet of women can lead to anemia and render them more susceptible to infection. However, it is more than just iron that renders this vegetable an important part of the female diet. Broccoli has been established to be of major importance in preventing cancer.

It is likely the most potent anti-cancer vegetable in your diet, and it has been established over 20 years of study that broccoli can help to prevent cancers of the breast and the cervix. The indoles that it contains prevent estrogens from promoting tumor growth, and it also contains beta-carotene, a strong antioxidant that destroys the free radicals that can also cause cancer. However, there is more to broccoli than just that.

Broccoli contains the highest concentration of sulforaphane of all the cruciferous vegetables that include Brussels sprouts, cabbage, cauliflower, rocket and turnip, amongst many others. When you chew broccoli, the glucosinolate glucoraphan is converted to sulforaphane, not by the enzymes in your saliva, but by the actual physical damage done to the plant by the act of chewing. It could likely also be generated by hitting it with a hammer! It is glucosinolates that provide the slightly bitter taste many people experience when they eat vegetables such as brussels sprouts and broccoli, and that likely renders them somewhat unattractive to children!

Sulforaphane is an isothiocyanate containing the NCS functional group, and is actually bound loosely to the sugar as sulforaphane glucosinolate. It is the loose binding that allows it be released on chewing. Broccoli sprouts are its richest source, and it is a strong antioxidant which is why it is so effective in reducing the possibility of certain cancers.

When fighting cancers, your body produces phase-II enzymes, and since sulforaphane induces these enzymes, it stops the carcinogens before they can damage your DNA. This is achieved through the enhancement of the transcription of the proteins that suppress the tumors. In layman's terms, it is the generation of tumor suppressant proteins from DNA that kills off the tumors before they can destroy the DNA.

There is even more however. Indoles have already been mentioned, and those in question are predominantly indole-3-carbinol (I3C) and 3,3-diindolylmethane (DIM). The latter is generated from the digestion of the former and possesses very potent anti-cancer properties. However, this indole can affect your health in ways other than just as an anti-cancer agent. It can modulate the immune system in a way that renders it suitable for the treatment of a number of viral infections, and is also believed to be a possible answer to the problem of bacteria that have become resistant to antibiotics. It appears to operate synergistically with Interferon-Gamma, a cytokine that helps to prevent viruses from replicating within the cells of the body, to strengthen the MHC-I Complex, a part of the human genome that supports the immune response to viral attacks.

To put it plainly, broccoli can aid your resistance not only to certain cancers, but also to attack by viruses and some bacteria. It is not only cancers of the cervix and breast that broccoli can help to prevent, but also of the lung, prostate, larynx and bladder. I3C also helps to support the function of your liver in detoxifying your blood as well as supporting the cellular reproduction without which your body could not maintain itself after damage.

Broccoli is therefore an important vegetable to men as well as to women, not only for its anti-cancer properties, but also as a general antioxidant and consequent free radical scavenging properties. Its high fiber content is equally split between soluble and insoluble vegetable fiber, and so meets your dietary needs of both types.

Cruciferous vegetables such as broccoli have been singled out by health organizations the world over as essential to your diet, and you should eat them regularly. Once daily would be good, but more is recommended if possible. As stated at the start, strong tasting vegetables containing glucosinolates might not be attractive to children and younger people, but their phytochemical content (the foresaid indoles and isothiocyanates) render them very potent antioxidants and anti-cancer foods.

Taken in relation to other foods, an ounce of broccoli contains as much calcium as a glass of milk, more vitamin C than a similar weight of orange, and a medium floret has more fiber than one slice of bran bread. It is rich in vitamin A and of course there are the other antioxidants and anti-cancer phytochemicals already detailed.

There are many ways of cooking broccoli to maintain its nutritional content, but if you do not like broccoli, then there are supplements available. You can purchase pure broccoli extract or an extract from a mixture of cruciferous vegetables. The choice is yours, but of one thing there can be no doubt. Broccoli is the king of green vegetables, and the nutrients it contains are not available in any other vegetable in such a concentrated and easy to assimilate form.

Your mom was right: it's not just 'eat your veg', but 'eat your broccoli'. No nutritional advice could be better than that. "Pass the broccoli please mom!"

About the Author

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