Essentials of Health

A recent study has shown that women who eat a diet high in fruits and vegetables have a significantly reduced risk of invasive bladder cancer.

Fruit and vegetable intake reduce bladder cancer risk in women

Fruits and vegetables are known to be a rich source of numerous vitamins, minerals, phytochemicals and antioxidants that may provide potential benefits associated with lowered cancer risk. In a recent study published in the *Journal of Nutrition*, researchers examined whether the dietary intake of fruits and vegetables, or certain nutrients concentrated in fruits and vegetables, were protective against the risk of bladder cancer.

The new study analyzed data collected from 185,885 adult participants in the Multiethnic Cohort (MEC) study, a prospective study designed to investigate the potential correlation between dietary and lifestyle factors and the incidence of cancer. Upon enrollment, participants completed a questionnaire that provided in-depth information about their fruit and vegetable intake. Categories analyzed included: fruit and vegetables, total vegetables, light green vegetables, dark green vegetables, yellow-orange vegetables, cruciferous vegetables, total fruit, fruit juice, citrus fruit and yellow-orange fruit.

A total of 581 cases of bladder cancer cases were diagnosed over an average follow-up period of 12.5 years. When compared to the group with the lowest 25% of intake, women whose total fruit and vegetable intake were in the top 25% had a 65% lower risk of bladder cancer. When comparing highest intake groups to lowest, women with higher total vegetable intake had a 51% reduction in risk, and total fruit intake resulted in a 46% lower risk. When looked at individually, yellow-orange vegetables and citrus fruits were found to be most protective, reducing risk by 52% and 44% respectively. In women, a protective benefit was seen in those with the highest intakes of vitamin A, vitamin C, vitamin E, alpha-carotene, beta-carotene, beta-cryptoxanthin and folate. In men, no significant associations were found for fruit, vegetables or nutrient intake overall, although vegetable intake was protective among men who were current smokers.

The results of this study suggest that diets high in fruits, vegetables and their associated nutrients may lower the risk of invasive bladder cancer. The authors suggest that future research and subgroup analysis should be done to determine why the protective benefit was primarily limited to women in this population.

Park SY et al. Fruit and Vegetable Intakes Are Associated with Lower Risk of Bladder Cancer among Women in the Multiethnic Cohort Study. J Nutr. 2013 Aug;143(8):1283-92.