

Polyphenols, the longevity molecules

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Some plants are truly more important than others for health, no matter what age you are. A study has shown that elderly people who regularly eat foods rich in polyphenols reduce their risk of premature death by one third.

NO ORDINARY MOLECULES

Polyphenols are a group of complex molecules, made by plants as a means of defense against their predators. Nearly 10,000 different polyphenols have been identified to date, these molecules being particularly abundant in certain drinks such as red wine and green tea, as well as in some foods such as grapes, apples, onions, wild berries as well as in some herbs and spices, legumes and nuts.

A large number of epidemiological studies have shown that the abundant consumption of these foods is associated with a significant decrease in chronic diseases, particularly heart disease, several types of cancer and certain neurodegenerative diseases. While the mechanisms for this still remain poorly understood, the polyphenols seem very likely to play an important role in these preventative effects, because these molecules are known to possess anti-inflammatory and anti-cancer properties, in some ways similar to those of synthetic molecules commercialized by the pharmaceutical industry without, however, having secondary effects or toxicity.

URINARY POLYPHENOLS

The exact role for polyphenols in the development of chronic diseases is, however, difficult to determine with precision in population studies because, amongst other things, measurements of the quantities of foods consumed must be performed by use of a questionnaire and thus depends in large part on the memory of the participants. To overcome this limitation, Italian scientists had the excellent idea of determining polyphenol intake by measuring its excretion in the urine with the aid of a standard biochemical test (Folin-Ciocalteu). Since polyphenols are only obtained from food, their presence in the urine must reflect exposure of the person to a plant source containing these molecules, without any of the bias or errors that are inevitably associated with studies that use questionnaires.



REDUCED MORTALITY

By using this approach, the team of scientists sought to determine if the multiple protective effects of polyphenols would result in a measurable influence of these molecules on the risk of premature death. A population of 807 subjects aged 65 years and over, living autonomously in a region of Tuscany, Italy, were surveyed over a period of 12 years and their mortality was correlated with the dietary intake of polyphenols. They found that people who had higher urinary concentrations of polyphenols had a risk of premature death that was 30% less than for those whose intake was lower. These results are very interesting, not simply because they confirm that polyphenols are largely responsible for the beneficial effects of plants on health, but also because they suggest that the increased lifespan seen in this study could be even greater for those who consume the “superplants”, which are particularly rich in polyphenols. Besides which, this would not be terribly difficult! One forgets sometimes that eating well is often synonymous with good taste and in the case of small fruits, dark chocolate, nuts, herbs and spices or even beverages like green tea, all of these foods and drinks are exceptional sources of polyphenols which can contribute to long lives in good health.

⁽¹⁾ Zamore-Ros, R et al. High concentrations of a urinary biomarker of polyphenol intake are associated with decreased mortality in older adults. *J. Nutr.* 2013; 143:1445-1450.