Health study with cherries on top

In the scientific community, there is intense interest in the potential of flavonoids, or phytochemical-rich fruit and vegetables, to improve health and especially to prevent age-related cognitive decline. In light of Australia’s ageing population, developing non-pharmacological approaches to complement current therapies has major public health significance.

Internationally, large cohort studies have found that people who consume higher levels of flavonoids have better cognitive function as they age, especially in areas of executive function and memory. Flavonoids have also been shown to lower blood pressure, a major risk factor for the development of dementia-related diseases.

Evidence is also emerging, mostly from animal studies, that anthocyanins – a class of flavonoid with bioactive components concentrated in dark red and blue fruits – can cross the blood–brain barrier to access areas of learning and memory.

To date, much of the work has focused on blueberries, but attention is now turning to Australian cherries which are rich in anthocyanins. However, with a relatively short season and the inability for trial participants to consume large quantities of fruit, commercial cherry juice has been used in studies thus far.

Researchers at the Illawarra Health and Medical Research Institute (IHMRI) and the University of Wollongong (UOW) have worked in partnership with the NSW-based R&D company, Agritechnology, to develop a novel process to extract cherry juice while preserving the anthocyanin content close to that of fresh cherries, enabling the team to start testing the benefits with groups of older people.

A recipient of an inaugural IHMRI Summer Scholarship for Dementia Research in 2011/12, UOW School of Health Sciences student, Katherine Caldwell, used her scholarship to assess if the consumption of a practical quantity of high-anthocyanin cherry juice had an acute impact on tasks related to cognitive functioning in people with and without dementia, compared to young healthy control subjects.

Under the supervision of UOW Associate Professor Karen Charlton (Public Health), Associate Professor Steven Roodenrys (Psychology) and Dr Andrew Jenner (IHMRI), she tested two different doses - a 300ml single drink, or the same amount split into three smaller quantities to be consumed over a six-hour period.
Although there was no immediate effects on cognition, blood pressure dropped dramatically two hours after consuming 300ml of cherry juice and returned to normal four hours later.

“These preliminary results are exciting and support the theory that the absorption of anthocyanins, or their metabolites, are able to relax blood vessels and lower blood pressure,” says Katherine.

“This food-based strategy may provide benefits through a number of mechanistic pathways that are yet to be identified.”

Senior Research Fellow, Dr Jenner, is a leader in the field of flavonoid metabolism. He has also developed a technique to measure the levels of over 80 flavonoids in the blood to understand which chemicals are actually causing the beneficial effects.

The same team, with the inclusion of Illawarra Shoalhaven Local Health District (ISLHD) Clinical Professor, Jan Potter, and Dr Karen Walton (UOW Health Sciences), is now investigating the long-term effects of cherry juice consumption on the cognitive functioning of older adults with mild to moderate dementia, alongside changes in physical and functional ability.

While the evidence is not yet conclusive, it is fair to say that eating fruits – particularly red/blue fruits – is very good for you.

Associate Professor Charlton and her team are now recruiting for the study and are looking for members of the community who may be experiencing age-related cognitive decline.

The media’s assistance in promoting the phone number, 02 4221 4333, would be much appreciated.

Ends

Media contact: IHMRI Communications Coordinator, Robyn Gower. P: + 61 2 4252 8228 or E: rgower@uow.edu.au.