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Dietary intake and major sources of flavonoids in older Australians with Alzheimer's type dementia

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Dietary intake and major sources of flavonoids in older Australians with Alzheimer's type dementia

Abstract

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DIETARY INTAKE AND MAJOR SOURCES OF FLAVONOIDS IN OLDER AUSTRALIANS WITH ALZHEIMER'S TYPE DEMENTIA

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Flavonoid intake has been related to a reduction in chronic diseases associated with ageing including cancer, cardiovascular disease and neurodegenerative diseases. Specific flavonoid subclasses, flavonols, flavones, flavanones, flavon-3-ols and anthocyanidins, have also been associated with ameliorating chronic disease risk. Total dietary intake of flavonoids and their major sources have recently been estimated in the Australian population. However, vulnerable groups at risk of dietary deficiencies were not investigated, including people living with Alzheimer's disease. Our objective was to estimate flavonoid intake and describe the major sources of flavonoids and flavonoid subclasses in older adults (+65yrs) with mild–moderate Alzheimer's disease (n=49). Data from 24-h diet recalls were cross-referenced with the USDA database for the flavonoid content of selected foods (release 3.1, 2013). Total flavonoid intake was estimated as 510mg/day, a figure lower than the Australian +65yrs estimation of 575mg/day. Black tea (80%) was the most significant dietary source of total flavonoids followed by green tea (7.5%), red wine (4.5%), apples (1.7%) and oranges (1.6%) with their respective fruit juices. Flavonols contributed 5.15% of total flavonoid intake. Dominant sources included black and green tea, onion, broccoli and apples. Flavones contributed the smallest percentage (0.15%) with the major source being parsley. Total flavanone intake provided 2% with major sources including oranges and orange juice, and lemons. Flavon-3-ols contributed 88.1% of total intake, with black tea as the major source and wine and apples contributing somewhat. Anthocyanidins (4.6%) were provided by red wine, red grapes and bananas. Conclusively, for older adults with Alzheimer's disease, total flavonoid intake is lower than current Australian estimations but contributions of dietary sources are similar. These results warrant further investigation in a larger sample to identify whether dietary flavonoid interventions may be useful to improve nutritional and chronic disease outcomes, especially relating to cognition.