

Fruit and veg may improve mental wellbeing

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Stress is part of our daily lives and can be considered normal to some extent. The stress we feel when we have a work deadline or a competition, for example, prepares our body to react and perform better. However prolonged or chronic stress can increase the risk of mental and physical health issues such as depression and cardiovascular diseases.

The COVID-19 pandemic has further exacerbated chronic stress worldwide, with people reporting increases in tension, being impatient, having an unbalanced mood, or yelling at a loved one more often.

Proven approaches to reduce stress include relaxation, meditation and increased physical activity. New stress-busting strategies are also needed. Typically, when stressed, people switch to the so called 'comfort foods', (e.g. sweets, fatty food, sugary drinks and alcoholic beverages) to attempt to compensate for negative mood and stress. My research focuses on whether diet can be used to reduce chronic stress.

Fruit and vegetables (FV) are considered a cornerstone of a healthy diet. Yet only 50% of Australians eat the recommended two serves of fruit and under one in 10 eat the recommended five serves of vegetables a day. The physical health benefits of FV intakes are well known, but remarkably little is known about their mental wellbeing benefits.

Key messages

- Stress is a major health issue and has been exacerbated by the pandemic
- Diet may be an additional option in stress management.

A short-term (14-day) randomised controlled trial (RCT) has shown that increasing FV intake can improve psychological well-being (vitality, flourishing, and motivation) whilst consumption of FV has been associated with lower stress in young people (<30 years).

However, it is unclear whether these short-term effects may lead to longer-term benefits and whether the link between FV and stress is seen in older adults. To address these gaps, data was used from over 8,000 Australian adults aged between 25-92 years with dietary and mental wellbeing outcomes including a 30-item perceived stress scale and 10-item depression symptoms questionnaire.

Results

In my first study, a higher FV intake was associated with 10% less stress, independent of other lifestyle factors, such as physical activity. These findings indicate the potential benefits of FV intake for stress across the adult lifespan.

The second study explored the relationship of specific FV types with perceived stress. We found that a higher consumption of apples

and pears, oranges and other citrus, and bananas, as well as cruciferous, yellow/orange/red, and legume vegetables were associated with 24-31% lower odds of having high perceived stress (highest 25% of the population by age and gender). These findings suggest that eating a 'rainbow' may be more beneficial.

The third study found that greater FV intake was associated with lower odds (16-36%) of tension, worries, and lack of joy (stress reactions). These findings suggest that FV can help alleviate different types of stresses, which may be important to tackle specific stress domains such as anxiety and lack of joy.

In my fourth study we found a FV-rich diet, consisting of a diverse range of vegetables, particularly yellow/orange/red and leafy green vegetables may help to lower depressive symptoms.

Limitations of this series of studies are that these were observational, which does not allow for causality, and some were cross-sectional meaning the temporal nature could not be determined. Additionally, we could not determine whether it is the nutritive (e.g., vitamins), non-nutritive (e.g., polyphenols) of the FV, or psychological effects of eating brightly coloured FV, or the tasks of preparing and cooking the foods (mindfulness) that may relax individuals and reduce stress.

Taken together, these studies provide further evidence that what we eat may alleviate stress and potentially improve mental wellbeing. Longer-term studies are needed to strengthen current evidence from observational studies and short-term RCTs on the beneficial effects of FV for stress. Results from these studies could be used to refine current guidelines and public health messages. [MF](#)

- References available on request

The author is a research fellow at the Nutrition & Health Innovation Research Institute and was involved in studies described.

