

Should we forget five-a-day? Not so fast!

06 October 2017

Recent media headlines claim that three servings of fruit and veg is enough to live longer. This is based on research looking at consumption of fruit, vegetables and legumes and the link to risk of cardiovascular disease and early death.¹ However, on a closer inspection, the results of the study actually support the current five-a-day recommendation.

The study

This large study looked at the fruit, vegetable and legume consumption of 135,335 people aged 35-70 from 18 low, middle and high-income countries.

At the beginning of the study, participants filled out food frequency questionnaires specific to their country. The researchers then calculated how many servings of fruit, vegetables and legumes they ate per day. Servings were defined as 125 g for fruit and vegetables, or 150g for legumes. The mean intake of fruit and vegetables was 3.91 servings per day.

Participants were then followed up for an average of 7.4 years, and several clinical outcomes were assessed. During follow-up, there were a total of 1,649 cardiovascular deaths, and 5,796 total deaths. The study did not find any significant effect of fruit, vegetable and legume consumption on cardiovascular events, or cardiovascular death.

The study did find that:

- People who ate 3 servings per day had a 23% lower risk of death from non-cardiovascular causes, than those who ate 2 servings per day. Additionally, people who ate 4 servings per day had a 20% lower risk of death from non-cardiovascular causes, than those who ate 3 servings per day.
- There was no significant additional risk reduction for people who ate more than 4 servings per day.
- People who ate 3 portions per day had the lowest risk of early death by any cause.

Considerations

Fruit, vegetable & legume consumption was only measured at the study start. Individual consumption patterns may have changed over time, and so the data from the food frequency questionnaire may not have been an accurate representation of participants' diets over the entire study period.

The servings defined in the study (125 g for fruit and vegetables, 150 g for legumes), were larger than those used as the basis for the World Health Organization (WHO) recommendations (5 x 80 g portions per day, for a total of 400 g). Media headlines that advised to 'forget 5-a-day' reported the results incorrectly, by failing to explain that the study defined larger portion sizes than the WHO recommendations. The lowest

risk was seen in people who ate three 125 g servings (or a total of 375 g) daily, which is very close to the WHO advice to eat a total of 400 g by weight per day.

Not all confounding variables were accounted for. Factors such as alcohol intake, other dietary factors, socioeconomic status or cultural factors may have also affected the risk of cardiovascular disease and early death.

Finally, the results of the study may not be generalizable for the European diet. Most of the data came from low or middle-income countries outside Europe, and only two European countries, Sweden and Poland, were included. Fruit and vegetable consumption patterns are likely to be different in other European countries (such as Mediterranean countries), which also may affect health outcomes.

General recommendations

Don't ditch your 5-a-day!

WHO recommends eating at least 5 portions of fruit and veg a day (5 x 80g portions or a total of 400 g). This ensures a sufficient daily intake of dietary fibre and reduces the risk of non-communicable diseases. Eating a variety of fruit and veg further ensures that we receive the maximum nutritional benefit.²

What counts as a serving?

To reach the goal of 5 servings of fruit and veg a day, it helps to know what counts as a portion.³ Canned, juiced, frozen and dried fruit and vegetables all count towards our daily target, and can be affordable and convenient.

- Cooked veg: 80 g (½ cup) of cooked veg
- Small fruits: e.g. 2 mandarins or kiwis
- Medium fruits: e.g. 1 apple or banana
- Large fruits: e.g. 1 slice of melon, or ½ a grapefruit
- Berries: e.g. 10 grapes/cherries, 6 strawberries, or 16 raspberries
- Dried fruit: e.g. 2 figs, or a handful of dried banana chips (avoid salted/fried)
- Juices and smoothies: 1 glass (150ml) of unsweetened 100% fruit/veg juice. Remember only 1 glass counts, further glasses don't contribute to your 5-a-day!