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# Research finds trees in urban spaces promote heart health

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12/01/2023 5:13:03 PM

**An analysis of 10 years of hospitalisation and death data shows urban green space, particularly trees, can reduce cardiovascular disease risk.**

A 10% increase in tree canopy cover within 1.6 km of a household was associated with a 3% reduced risk of all-cause mortality.

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New research has revealed how different types of urban green space may impact cardiovascular health, with trees found to produce the most benefits.

Published in *Heart, Lung and Circulation*, the study tracked cardiovascular events and mortality across 10 years of linked health data from more than 100,000 Australian adults living in apartments or houses, and compared it with total green space, tree canopy cover and open grass within 1.6 km buffers.

The associations were adjusted for potential confounders, with the results showing that a 10% increase in total green space was linked with reduced risk of cardiovascular disease (CVD) mortality among house residents.

Tree canopy cover was even more beneficial, with a 10% increase linked with reduced risks of all-cause mortality, CVD mortality, and fatal or non-fatal heart attack.

GP Associate Professor Vicki Kotsirilos, who presents medical lectures on the health benefits of air quality and open spaces, told *newsGP* the 'significant' study reinforces the need to protect open spaces and plant more trees in urban areas.

'Trees improve air quality by reducing air pollution, which consequently reduces the incidence of cardiovascular disease – as this study demonstrated – but also [respiratory diseases, asthma](#), allergies, mental diseases, psychiatric disorders, and so on,' she said.

'They can also filter pollens, especially on windy days where they act as a bit of a wind trap, and this may benefit asthma and allergies, depending on the type of trees that are planted.

'Trees also shade and cool our cities, keeping us cooler over the summer months, which has a number of health benefits.'

Crucially, while the study showed health benefits associated with trees, Dr Kotsirilos pointed out that the study did not identify similar links between improved heart health and increased grassy open areas.

'What this study tells us is that we really need to protect trees, on our properties and within our community and in open spaces,' she said.

'In light of this study, urban planning and councils need to educate the local community on the health benefits of tree retention, why we need to protect existing trees on our properties and promote the planting of more trees in open

spaces, such as our parks.

‘As doctors, we have an important voice in the community to liaise with our local councils to help create a healthier environment for our patients.’

*Associate Professor Vicki Kotsirilos says GPs should continue to encourage patients to spend more time outdoors in nature as a regular part of clinical practice.*

However, the research did not find similar associations between green space in urban areas and better heart health for people living in apartments. Study co-lead Professor Xiaoqi Feng from the University of New South Wales said there may be other factors that help explain the disconnect, although more research is needed.

‘One reason is that apartments are normally quite dense and may be even crowded,’ she said.

‘So, you can imagine that if you plant the same number of trees in a low-density area and then a high-density area, the ratio of trees to people changes.

‘Also, even if there is some green space within or around your apartment block, it’s often not an area you can or would want to visit, or permit children to play in. It’s there to tick a box but offers few qualities to attract people to spend time there.’

Professor Feng said the results show a need for more research regarding the type and quality of green space around apartment blocks to ensure people have the same opportunity to benefit from nature.

‘This research is important for Australia, with the massive urbanisation we can see in Sydney and Melbourne, and worldwide,’ she said.

‘We need to make sure our urban planning complements existing trees and enhances green space qualities with community input, to enable current and future generations to thrive.’

In the meantime, Associate Professor Kotsirilos said GPs should continue to encourage patients to spend more time outdoors in nature similar to other lifestyle and [non-drug interventions](#) that are already a regular part of clinical practice.

‘Just like we give a prescription of the benefits of exercise, diet and relaxation, part of that could be encouraging our patients to take a “nature walk”, which not only promotes exercise, but also helps to reduce stress,’ she said.

‘We need to protect our trees and green spaces and help prevent further development over these precious sites ... as they ultimately benefit both our mental and physical health.’