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Definitions

- **Greenness:** Amount of vegetation around a home, like trees and plants.
- **Hemodynamic Effects:** How well the blood moves through the body.
- **Ambient Air Pollution:** Pollution in the air from sources like cars and factories.
- **PM2.5:** Tiny particles in the air that can harm your lungs and heart.
- **Ozone:** A gas in the air that can cause health problems when levels are too high.

Key Findings

- Living near green spaces (greenness) can reduce the harmful effects of air pollution on the heart and blood vessels.
- Areas with more vegetation are linked to better blood pressure and less arterial stiffness.
- Air pollution increases blood pressure and arterial stiffness, but this effect is less in greener areas.

Introduction

This study explores how living near green spaces can help protect people from the harmful effects of air pollution on heart health. It focuses on how vegetation can improve blood pressure and reduce the stiffness of arteries.

Main Content

Background

Cardiovascular disease (CVD) is a leading cause of death. Many factors contribute to CVD, including environmental factors like air pollution and lack of green spaces. Previous research shows that living in greener areas can lower the risk of CVD and improve overall health.

Methods

The study involved 73 participants with moderate to high risk of CVD. Researchers measured their arterial stiffness and blood pressure. They also looked at the levels of PM2.5 and ozone in the air around the participants' homes. The amount of greenness was measured using satellite images.

Results

- **Demographics:** Participants were 51% female, with an average age of 52 years. Most had hypertension (79%).
- **Greenness and Health:** Living in greener areas was linked to lower arterial stiffness and better blood pressure.
- **Air Pollution Effects:** Higher levels of PM2.5 and ozone were linked to higher arterial stiffness and blood pressure.
- **Greenness Mitigation:** The negative effects of air pollution were less severe in areas with more vegetation.

Conclusion

Living near green spaces can help protect against the harmful effects of air pollution on the heart and blood vessels. This suggests that increasing vegetation in residential areas could be a valuable public health strategy to reduce the risk of cardiovascular disease.

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