Yeager, R., Riggs, D. W., DeJarnett, N., Tollerud, D. J., Wilson, J., Conklin, D. J., ... & Bhatnagar, A. (2018). Association between residential greenness and cardiovascular disease risk. *Journal of the American Heart Association*, *7*(24), e009117. https://doi.org/10.1161/JAHA.118.009117

Definitions

- **Residential Greenness**: Amount of green vegetation around where people live.
- **Cardiovascular Disease (CVD)**: Diseases related to the heart and blood vessels.
- **Normalized Difference Vegetation Index (NDVI)**: A measure using satellite images to show how much green vegetation is in an area.
- **Biomarkers**: Substances in the body that can be measured to show the presence or risk of disease.
- **Epinephrine**: Also known as adrenaline, a hormone that indicates stress.
- **Oxidative Stress**: Damage to the body caused by harmful molecules called free radicals.

Key Findings

- Living in greener areas is linked to lower levels of stress and markers of heart disease.
- Women, those not on certain heart medications, and those without a past heart attack benefit more from living near greenery.
- Green areas can improve overall heart health by reducing stress and promoting better blood vessel repair.

Introduction

The study examines how living near green spaces (like parks and trees) affects the risk of heart disease. It focuses on understanding the relationship between the amount of greenery around people's homes and their heart health.

Main Content

Background

Green spaces are believed to be good for health, but it's not clear exactly how they help. This study aims to find out if living near green spaces can reduce the risk of heart disease by lowering stress and improving other health markers.

Methods

- **Participants**: 408 people from a heart health clinic.

- **Greenness Measurement**: Used satellite images to measure the amount of green vegetation around participants' homes within 250 meters and 1 kilometer.
- **Health Measurements**:
    - Blood and urine samples were taken to measure stress hormones and other heart disease markers.
    - Participants' addresses were mapped to assess their proximity to green spaces.

Results

- **Stress Levels**: People living in greener areas had lower levels of epinephrine, indicating less stress.
- **Oxidative Stress**: Lower levels of F2-isoprostane, a marker of oxidative stress, were found in those living near more greenery.
- **Blood Vessel Health**: More green spaces were linked to higher levels of cells that help repair blood vessels, indicating better heart health.

Conclusion

Living near green spaces is beneficial for heart health. It reduces stress and oxidative stress and promotes better blood vessel repair. This study highlights the importance of green spaces in urban planning for improving public health. Further research is needed to understand the long-term effects of greenery on heart health.

Word Count: 387