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INTRODUCTION

Nearly four out of five Irish adults over the age of 50 are classified as overweight or obese, according to their body mass index (BMI) measurements. The problem is significant for other age groups as well. Obesity confers higher risks of health problems including cardiovascular disease, diabetes, osteoarthritis and some cancers. One contributor to this problem in recent decades is thought to be the shift of population into urban areas, which is often accompanied by less physically active lifestyles.

Some international research suggests that green spaces such as parks in urban areas can encourage physical activity and help to reduce obesity in the urban population. However, this relationship is difficult to isolate because obesity rates can be influenced by many socio-economic characteristics and behaviours. In this study we link data on body mass index (BMI) for a large representative sample of over-50s living in urban areas of Dublin, Cork, Galway, Limerick and Waterford to digital maps showing how much green space is near their homes. We then use statistical tools to see whether those living in areas with more or less green space are at an increased risk of obesity after taking into account many other socio-economic characteristics of these individuals.

DATA AND METHODS

This study uses information on individuals' BMI and other socioeconomic information from The Irish Longitudinal Study on Ageing (TILDA), a nationally representative study of people aged 50 and over in Ireland. To calculate the BMI, TILDA nurses measured the heights and weights of study participants, so we are confident these measurements are accurate. The dataset contains other relevant data, including age, income and educational attainment.

[1] This Bulletin summarises the findings from: Dempsey, S., S. Lyons and A. Nolan, 2018, Urban green space and obesity in older adults: Evidence from Ireland, *SSM - Population Health* 4, 206–215. Available online: https://doi.org/10.1016/j.ssmph.2018.01.002.

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We calculate the share of green space in a 1.6km circle around each participant's home, and then classify participants into five 'quintiles' of green space, from the lowest to the highest share. There are many ways to estimate the availability of green space to urban residents, but the share of green space in a zone around the home is a popular one among researchers studying this topic. This statistic does not directly measure how much each person uses parks or other green spaces; instead, it is a "proxy" variable that we think captures the relative availability of green space in different residential areas. Statistical tools are then used to check how the probability of being obese (BMI ≥ 30) varies across areas with more or less green space, controlling for characteristics of individuals and areas that might be related to obesity, e.g., age, income, gender, smoking, level of education or the presence of a mobility impairment.

RESULTS

People living in urban areas with a medium amount of green space show a lower risk of obesity than those living in urban areas with the most or least amount of green space. The relationship is statistically significant and large: people who live in areas with the lowest or highest share of green space are 13 percentage points more likely to be obese than those who live in areas with middle amounts of green space.

POLICY IMPLICATIONS

It is not surprising that those living in urban neighbourhoods with very little green space might have higher risk of obesity, but why might the greenest urban areas also have elevated obesity rates? We do not know for sure, but it seems likely that there is some other feature of the urban landscape that affects the relationship between green spaces and obesity. For green spaces to encourage physical activity and thereby benefit health they not only need to be available, but also accessible. For example, perhaps the greenest areas lack footpaths, since they are on the less dense outer fringes of cities, so local residents do not walk as much as those in somewhat more densely-populated areas that do have footpaths.

However, with the data used in this study we cannot rule out the possibility that the lower obesity risk in areas with middle amounts of greenness might actually be driven by other unidentified factors affecting BMI in these areas. Research using more detailed data on land use will be needed to better understand the complex relationships between neighbourhood characteristics and health-enhancing behaviours.

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