

Living Close to Urban Green Spaces Is Associated With a Decreased Risk of Breast Cancer

The study also shows that residential proximity to agricultural areas is associated with an increased risk of breast cancer

Barcelona, 21 August, 2018.- An increasing number of studies are reporting health benefits of contact with urban green spaces. A [new study](#) from the Barcelona Institute for Global Health (ISGlobal), an institute supported by the "la Caixa" Banking Foundation, has studied, for the first time, the relationship between exposure to green spaces and breast cancer. The study, which analysed data from more than 3,600 women in Spain, concluded that the **risk of breast cancer was lower in the women who lived closer to urban green spaces**, like parks or gardens.

Previous research has identified an association between contact with [green spaces](#) and several health benefits, including **better general and mental health** and increased life expectancy. In the older population, contact with green spaces has recently been linked with [slower cognitive decline](#). In children, exposure to greenness has been associated with improvements in attention capacity, behaviour, emotional development, and even [beneficial structural changes in the brain](#). To date, few studies have focused on the relationship between exposure to natural green spaces and the risk of cancer, more specifically breast cancer, the most common malignant disease among women and the one that causes the most cancer deaths in the female population.

The new study, published in the *International Journal of Hygiene and Environmental Health*, was carried out in the framework of the Spanish multicase-control study ([MCC-Spain](#)), co-financed by the CIBER of Epidemiology and Public Health (CIBERESP). The authors collected and analysed data from **1,738 patients with breast cancer and 1,900 participants with no history of the disease living in ten Spanish provinces** (Asturias, Barcelona, Cantabria, Girona, Guipuzcoa, Huelva, Leon, Madrid, Navarre and Valencia).

Data on lifetime residential history, socio-economic level, lifestyle factors and levels of physical activity were obtained during **interviews with each one of the participants**. Information on **proximity to urban green spaces or agricultural areas, air pollution levels, and population density** was obtained by geo-coding the residential address of each participants.

The first author of the study, ISGlobal researcher **Cristina O'Callaghan-Gordo**, explains, "We found a reduced risk of breast cancer among women living in closer to urban green spaces. By contrast, women living closer to agricultural areas, had a risk higher. This findings suggests, that **the association between green space and a risk of breast cancer is dependent on the land use.**"

Mark Nieuwenhuijsen, the study coordinator and Director of ISGlobal's [Urban Planning, Environment and Health Initiative](#), goes on to explain that the researchers "found a linear correlation between distance from green spaces and breast cancer risk. In other words, **the risk of breast cancer in the population declines, the closer their residence is to an urban green space**. These findings highlight the importance of natural spaces for our health and show why green spaces are an essential component of our urban environment, not just in the form of isolated areas but as a connective network **linking the whole urban area** and benefitting all its inhabitants."

“We still don’t know which characteristics of natural spaces are the most beneficial and nor do we understand the mechanisms underpinning these beneficial health impacts,” explains ISGlobal researcher **Manolis Kogevinas**, coordinator of the MCC-Spain project. “Other studies have shown that the mechanisms that might explain the health benefits of green spaces include higher levels of physical activity in the population and a reduction in air pollution, an environmental hazard clearly linked to the onset of cancer. However, we did not observe these associations. We believe that other mechanisms—including lower levels of stress among people living close to green spaces—could play a role, but more research is needed to confirm this hypothesis”, he adds.

The results of earlier studies have suggested that the association between a **higher risk of breast cancer and residential proximity to agricultural land** may be due to the use of pesticides. O’Callaghan-Gordo concludes: “We didn’t analyse levels of exposure to agrochemicals in our study, but they should be taken into account in future research to provide more insight into the mechanism underlying this negative association.”

Reference

O’Callaghan-Gordo C., Kogevinas M., Cirach M., Castaño-Vinyals G., Aragonés N., Delfrade J., Fernández-Villa T., Amiano P., Dierssen-Sotos T., Tardon A., Capelo R., Peiró-Perez R., Moreno V., Roca-Barceló A., Perez-Gomez B., Vidan J., Molina A., Oribe M., Gràcia-Lavedan E., Espinosa A., Valentin A., Pollán M., Nieuwenhuijsen MJ. Residential proximity to green spaces and breast cancer risk: The multicasecontrol study in Spain (MCC-Spain). *International Journal of Hygiene and Environmental Health*. 2018 Aug 1. [doi: 10.1016/j.ijheh.2018.07.014](https://doi.org/10.1016/j.ijheh.2018.07.014).

About ISGlobal

The Barcelona Institute for Global Health, ISGlobal, is the fruit of an innovative alliance between the “la Caixa” Foundation and academic and government institutions to contribute to the efforts undertaken by the international community to address the challenges in global health. ISGlobal is a consolidated hub of excellence in research that has grown out of work first started in the world of health care by the Hospital Clínic and the Parc de Salut MAR and in the academic sphere by the University of Barcelona and Pompeu Fabra University. The pivotal mechanism of its work model is the transfer of knowledge generated by scientific research to practice, a task undertaken by the institute’s Education and Policy and Global Development departments. ISGlobal a member of the CERCA programme of the Generalitat de Catalunya.

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