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Effect of Nature on Urban Health:

Greenery has been shown to help combat mental illness.

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A research article reporting on:
South EC, Hohl BC, Kondo MC, MacDonald JM, Branas CC. (2018, July). Effect of greening vacant land on Mental Health among urban residents. JAMA Network Open.

Mental health disorders are rampant in our society today. Despite this, there is still a lack of effective treatments. Often, neighborhood conditions (such as spaces in disrepair, spaces with a lot of trash etc.) affect a person's mental health and are often experienced in poorer communities[1]. A group of researchers explore one possible treatment to mental health disorders in an urban setting — exposure to nature[2,3,4]. Specifically, they were trying to find the effects of inexpensive and reproducible vacant land greening and trash cleanup efforts on health and safety.

To do this, they made a master list of all vacant lots in Philadelphia, Pennsylvania, where the study took place, excluding lots if they weren't sufficiently abandoned, were greater than 5500 sq ft, or were fully paved parking lots. After that, based on the lot's location, the researchers divided the list into 4 sections. In each section, an "index lot" was picked. All other vacant lots within a 0.25 mile radius of the index lot were grouped together to form "clusters" of lots, which would each serve as a separate location for a trial for the experiment. Each cluster was then assigned to one of 3 categories: the greening intervention, the trash cleanup intervention, or no intervention. These processes were done in a reproducible and cheap manner — the approximate greening of a vacant lot was $1,597 and $180 per year for maintenance.

The researchers surveyed 5 people in each cluster, 2 times before the intervention and 2 times after the intervention, not mentioning the fact that it was related to the environmental interventions. The people were asked how often they felt nervous, hopeless, restless, depressed, worthless, and that everything was an effort, on a 4-point likert scale, with a score of 4 being all the time and 0 being never. By summing up the scores on each of the questions, they created a 24-point scale of each person's mental health, with a score of 13 or above showing serious mental illness.

When comparing results from the greening intervention and the no-intervention clusters, the researchers found that there was a significant decrease in feeling depressed and feeling worthless. When looking strictly at communities below the poverty line, feeling depressed also decreased. This shows that urban greenery can help improve mental health conditions, especially in communities under the poverty line, and that interaction with nature somehow affects the brain in a positive manner. We can use this study to help create a healthy mental environment. This can also lead to lower crime rates[5] and a higher standard of living. However, it is important to note that this study was purely correlational. There are many other possible reasons for which depression rates dropped within that time-period - correlation does not necessarily mean causation. Therefore, further research is needed to understand the relationship between exposure to nature in your living environment and mood.

1. Environmental Protection Agency. (2017). What are vacant lots? Urban environmental program in New England. EPA. **2**. Moreira, T., Polize, J. L., Brito, M., da Silva Filho, D. F., Chiavegato Filho, A., Viana, M. C., Andrade, L. H., & Mauad, T. (2022). Assessing the impact of urban environment and green infrastructure on mental health: results from the São Paulo Megacity Mental Health Survey. Journal of exposure science & environmental epidemiology, 32(2), 205–212. https://doi.org/10.1038/s41370-021-00349-x **3**. Seymour, V. (2016). The human-nature relationship and its impact on Health: A Critical Review. Frontiers in public health. **4**. Gianfredi, V., Buffoli, M., Rebecchi, A., Croci, R., Oradini-Alacreu, A., Stirparo, G., Marino, A., Odone, A., Capolongo, S., & Signorelli, C. (2021). Association between Urban Greenspace and Health: A Systematic Review of Literature. International journal of environmental research and public health, 18(10), 5137. https://doi.org/10.3390/ijerph18105137 **5**. Freedman, D., & Woods, G. W. (2013). Neighborhood effects, mental illness and criminal behavior: A Review. Journal of politics and law