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## **Assessing the Impact of Rooftop Gardens on the Quality of Life of Kidney Transplant Recipients in Urban Environments**

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**Objectives :** Kidney transplantation is a critical procedure for saving lives, yet recipients often face post-operative challenges that affect their quality of life (QoL). This study investigates an innovative approach to enhance the QoL of kidney transplant recipients by examining the impact of rooftop gardens in urban settings. The aim is to determine whether access to such green spaces can significantly improve the well-being of transplant recipients.

**Methods :** This longitudinal study recruited 120 kidney transplant recipients in a densely populated urban area. Participants were randomly assigned to either a control group without access to rooftop gardens or an experimental group with access to a hospital rooftop garden. QoL was measured using the Kidney Transplant Quality of Life (KTQOL) questionnaire at baseline, 6 months, and 12 months post-transplantation. Environmental factors like air quality, noise levels, and greenery in the vicinity of the garden were assessed. Multivariate regression analysis was used to assess the association between rooftop garden access and QoL, accounting for potential confounders.

**Results :** Transplant recipients with rooftop garden access reported significantly higher QoL scores compared to the control group at the 6-month mark (mean difference = 9.72,  $p < 0.001$ ). The experimental group also exhibited a 15% lower incidence of post-transplant depression ( $p < 0.01$ ) and a 10% reduction in medication-related side effects ( $p < 0.05$ ). Improved QoL showed a positive correlation with the time spent in the garden and the presence of surrounding greenery.

**Conclusions :** This study demonstrates the potential of urban rooftop gardens to significantly enhance the quality of life for kidney transplant recipients, with a nearly 10-point increase in QoL scores at the 6-month mark. It emphasizes the importance of integrating green spaces into urban healthcare settings. Further research is necessary to confirm these findings and explore broader implications for transplant care.