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**Topic:** The impact of food systems on nutrition, diet and health

**Title:** The effect of environment on the nutritional status of Brazilian adults and elderlies - Analyses from the Brazilian Longitudinal Study of Adult Health (ELSA-Brazil).

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There is growing recognition of environmental effect on obesity by scientific community. In middle and low-income countries there are few studies evaluating the influence of contextual factors on obesity, especially regarding the perception about food and physical activity environments. This study aims to analyze the association between food and physical activity environments and the nutritional status (NE) of adults and elderlies. Baseline data (2008 - 2010) of the ELSA-Brazil study (n = 10,445) were analyzed. The main exposure variables were: the average perception of the availability of healthy food and the environment for physical activity in the neighborhood. Body mass index (BMI) was the outcome variable. A multilevel model was used in statistical analyses. The physical activity environment was positively associated with BMI for women. Those who had better perception of walkability were more likely to be individuals with lower BMI, after adjustment for age, race, income, education, marital status, time living in the neighborhood, self-rated health and physical activity. The relationship between food environment and BMI was not statistically significant. When evaluated jointly, physical activity and food environments had no effect on BMI. The findings on physical activity environment and nutritional status among women converge with previous results observed in high income countries and confirm our hypothesis of the existence of an association between better perception of supportive environments for physical activity and lower BMI in women. The perception of a more favorable food environment was not associated with BMI in any of the groups studied.