Observatorio Materno Infantil

IBERO
CIUDAD DE MÉXICO

FOOD AND PHYSICAL ENVIRONMENTS

Definition

Food and physical environments are critical to promoting healthy lifestyles and preventing the various forms of maternal and child malnutrition.

The food environment includes factors that influence availability, accessibility and choice of food, such as proximity to stores, food prices, government policies, and cultural and social influences. These factors determine what food is available and how easily or affordably people can access it, which affects their eating habits, health and nutrition. On the other hand, the physical environment includes the spaces and infrastructure that facilitate or hinder physical activity and exercise.[1,2]

Importance

It is an important indicator of public health because access to healthy environments is a prerequisite for the realization of basic human rights, including the rights to life, health, food, water and sanitation. [3]

There is currently evidence of the impact of access to healthy environments and better health outcomes. [4] Some "lifestyles", particularly poor diet and sedentary lifestyles, lead to chronic diseases and health disparities that have social and geographical patterns, for example, less access to spaces for physical activity or spaces for healthy food. [4]

Children can be especially vulnerable, as they have few opportunities to choose or change their environment.[4]

Data sources

National Institute of Statistics and Geography (INEGI): The 2020 INEGI Census was used to identify the population from 0 to 14 years old by locality. They separated into groups of 5 years.

Five-year age groups:

- 0-4 years
- 5-9 years
- 10-14 years

-Food environments

National Statistical Directory of Economic Units (DENUE 2020): it was used to identify the establishments in which foods are sold

a) Healthy foods (red meat, white meat, fish and seafood, milk and dairy, seeds, grains and chiles, fresh fruits and vegetables, tortillas)
b) Fruits and vegetables.

1. Cruz-Licea, Verónica, Moreno Sánchez, Ana Rosa, Iñarritu, Pérez, María del Carmen, González Varela, Luz, Adriana. Healthy environments, health promotion strategy and disease prevention. [Internet]. Available in: https://dsp.facmed.unam.mx/wp-content/uploads/2023/07/Entornos-Saludables.pdf
2. Food and Agriculture Organization of the United Nations. School Food and Nutrition [Internet]. Available in: https://www.fao.org/school-food/areas-work/food-environment/es/
3. Roberts LF, Lounsbury O, Awuzudike V, Jennings N, Lawrance EL. Healthy Environments: Understanding Perceptions of Underrepresented Communities in the United Kingdom. IJERPH. August 5, 2022; 19(15):9643.
4. Audrey S, Batista-Ferrer H. Healthy urban environments for children and young people: A systematic review of intervention studies. Health & Place. 2015 Nov;36:97-117.

-Physical environment

The urban green areas designated by INEGI were obtained from INEGI's 1:50,000 topographic charts. Additionally, inputs from OpenStreetMaps (OSM) were included, since they have a category of parks, recreation areas and courts for all of Mexico.

The following were considered as physical spaces for physical activity:

a) Parks
b) Squares
c) Green areas
d) Sports for large audiences

Indicator estimation

-Food environments

Establishment density indicators: Number of food establishments in the demarcation of residence that offer certain foods, relative to the population in the first three age quantiles.

These indicators were calculated for the states with the highest and lowest prevalence of obesity in the preschool and school populations, according to figures from the National Health and Nutrition Survey (ENSANUT, 2018).

$$\frac{\text{\# of food establishments}}{\text{\# of children in each group}} * 100$$

-Physical environment

Indicator of areas for physical activity: Square meters in the demarcation of residence, relative to the population in the first three age quintiles.

The following formula was used to estimate the density of spaces (green areas and establishments selling fruit and vegetables) by locality, according to the number of children aged 2 to 11 years:

$$\frac{\text{\# of food establishments}}{\text{\# of children in each group}} * 100$$

1. Cruz-Licea, Verónica, Moreno Sánchez, Ana Rosa, Iñarritu, Pérez, María del Carmen, González Varela, Luz, Adriana. Healthy environments, health promotion strategy and disease prevention. [Internet]. Available in: https://dsp.facmed.unam.mx/wp-content/uploads/2023/07/Entornos-Saludables.pdf
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