

IMPROVING SCHOOL FOOD ENVIRONMENTS TO PREVENT CHILDHOOD OBESITY: WHAT WORKS?

A SYSTEMATIC LITERATURE REVIEW AND META-ANALYSIS

The global prevalence of **childhood overweight and obesity continues to rise**. Obesity is often caused by poor diet, and many children live in obesogenic environments that encourage the consumption of energy-dense foods.

Schools can be a key setting in the fight against obesity. Most European children spend a significant amount of time at school and **consume a large quantity of their daily calories there**.

School food environments include cafeteria and vending machines, as well as fast-food restaurants and supermarkets in the direct vicinity of schools.

Overall findings

The study found a significant association between school food environment interventions and a **reduction in Body Mass Index (BMI)**.

It also showed that schools **can improve the healthfulness of food environments** without economical losses.

Providing **clear and precise dietary guidelines** that increase the quality and nutritional value of school meals offers a good starting point.

What works to improve school food environments?

Especially promising is a strategic mix of interventions that:

- Are based on **scientific evidence**
- Increase the availability of **fruit and vegetables**

- Provide **healthy meals** with high palatability and attractive presentation
- Restrict or ban **vending machines and soft drinks**
- **Promote collaboration**, training and education of school chefs and staff, parents and children according to local needs

What undermines healthy school food environments?

Findings from the review include:

- Some school programmes are **not based on scientific evidence**
- There is ongoing provision of foods that contain elevated amounts of **sugars** (e.g. juices and boxed cereals)
- There is persistent provision of **ultra-processed and highly caloric foods** in schools
- The **surrounding school food environment** has a great impact on children's food choices and can **negatively affect the benefits of healthy food environments** within schools

The role of government

Policy actions are needed to improve school food environments. **Regions with strong regulatory policies** on food and beverages have shown improved BMI and dietary outcomes compared to regions without regulatory policies.

To ensure long lasting impact it is crucial that governments are involved in **the implementation, monitoring and enforcement of food environmental regulatory policies within and around schools**.



CITATION

Pineda, E., Bascunan, J., & Sassi, F. (2021). Improving the school food environment for the prevention of childhood obesity: What works and what doesn't. <https://doi.org/10.1111/obr.13176> *Obesity Reviews*, 22(2), e13176.



Science and Technology in
childhood Obesity Policy

Improving school food environments to prevent childhood obesity

Healthier school meal standards



High
palatability

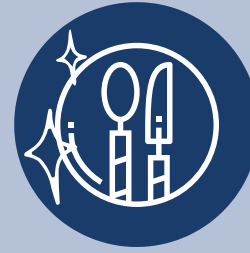
Increase fruit
and vegetable
accessibility



Replace sugar-
sweetened beverages,
including juices,
with water



Attractive
presentation

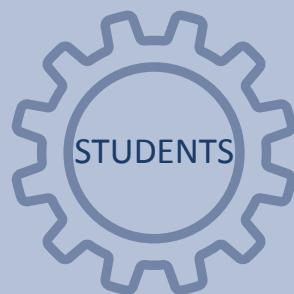
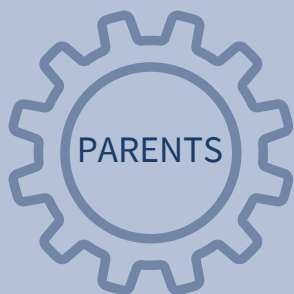


Replace refined
carbohydrates
with unrefined
whole grains



CHANGES IN SCHOOL FOOD ENVIRONMENTS
CAN IMPROVE CHILDREN'S DIETS AND BMI, BUT
REGULATORY POLICIES ARE NEEDED FOR
LASTING CHANGE

Involvement of



needed to ensure maximum
acceptability, adaptability and sustainability.

