

Urgent action needed to reduce harms of ultra-processed foods to British children

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These are the findings of an Imperial-led study using data from thousands of children in England over a number of years, which looked at the health impact of consuming ultra-processed foods (UPFs)—food

and drink heavily processed during their making, such as frozen pizzas, fizzy drinks, mass-produced packaged bread and some ready meals.

Researchers found that not only do UPFs make up a considerably high proportion of [children's](#) diets (more than 40% of intake in grams and more than 60% of calories on average), but that the higher the proportion of UPFs they consume, the greater the risk of becoming overweight or obese.

In addition, they highlight that eating patterns established in childhood extend into adulthood, potentially setting children on a lifelong trajectory for obesity and a range of negative physical and mental [health](#) outcomes including diabetes and cancers.

The authors explain the research, published today in the journal *JAMA Pediatrics*, provides important evidence of the potential damage of consuming highly processed foods which are often cheap, widely available and highly marketed. They say that action is needed urgently to reduce UPF consumption among children.

Professor Christopher Millett, NIHR Professor of Public Health at Imperial College London, said, "We often ask why obesity rates are so high among British children and this study provides a window into this. Our findings show that an exceptionally high proportion of their diet is made up of ultra-processed foods, with one in five children consuming 78% of their calories from ultra-processed foods.

"Through a lack of regulation, and enabling the low cost and ready availability of these foods, we are damaging our children's long-term health. We urgently need effective policy change to redress the balance, to protect the health of children and reduce the proportion of these foods in their diet."

Dr. Eszter Vamos, Senior Clinical Lecturer in Public Health Medicine at Imperial, said, "One of the key things we uncover here is a dose-response relationship. This means that it's not only the children who eat the most ultra-processed foods have the worst weight gain, but also the more they eat, the worse this gets."

"Childhood is a critical time when food preferences and eating habits are formed with long-lasting effects on health. We know that if children have an unhealthy weight early in life, this tends to trace into adolescence and then adulthood. We also know that an [excessive consumption](#) of ultra-processed foods is linked to a number of health issues including being overweight or obese, [high blood pressure](#), cardiovascular disease, type two diabetes and cancer later in life, so the implications are enormous."

This latest study provides new, important data on the impact of industrial food processing, in which foods are modified to change their consistency, taste, color, shelf life or other attributes through mechanical or chemical alteration—typically lacking in traditional, home-prepared meals—on child health.

Led by a team from Imperial's School of Public Health, the work is the first to look at the link between the consumption of UPFs and obesity in children over a long period of time, with findings broadly applicable to children across the UK.

Using data from a cohort of 9,000 children in the Avon area in the West of England and born in the early 1990s, researchers were able to follow the life course of children from the age of 7 until the age of 24. As part of this cohort, food diaries were completed at age 7, 10 and 13, recording the food and beverages children consumed over three days. Data measures were also collected over 17 years, covering areas including body mass index (BMI), weight, waist circumference and

measurements of body fat.

Researchers categorized children into five equally-sized groups based on the consumption of UPFs in their diet—in the lowest group UPFs accounted for one-fifth (23.2% of grams) of total diet, while the highest group consumed more than two-thirds of UPFs (67.8% of grams). Major sources of UPFs in the highest consumption group included fruit-based or fizzy drinks, ready meals, and mass-produced packaged bread and cakes. Comparatively, diets in the lowest consumption group were based on minimally processed foods and beverages, such as plain yogurt, water and fruit.

The analysis revealed that on average, children in the higher consumption groups saw a more rapid progression of their BMI, weight, waist circumference and body fat into adolescence and early adulthood. By 24 years of age, those in the highest UPF group had, on average, a higher level of BMI by 1.2 kg/m², body fat by 1.5%, weight by 3.7 kg and waist circumference by 3.1 cm.

Kiara Chang, Research Fellow and first author on the paper, said, "During the 17 years of follow up, we saw a very consistent increase in all measures of unhealthy weight among children who consumed greater amounts of ultra-processed foods as part of their diet. Their BMI, weight gain, and body fat gain was much quicker than those children consuming less ultra-processed foods. We actually see it making a difference from as young as 9 years old, between those consuming the most compared with those consuming the least ultra-processed foods."

The researchers highlight that a limitation of the study is its observational nature, and that they are unable to definitively show direct causation between consumption of UPFs and increases in BMI and body fat.

According to the researchers, more radical and effective public health actions are needed urgently to reduce children's exposure and consumption of UPFs and to address childhood obesity in the UK and internationally. These actions should include:

- National dietary guidelines should be updated to emphasize preference for fresh or minimally processed foods and avoidance of ultra-processed foods, in line with guidelines developed in Brazil, Uruguay, France, Belgium and Israel.
- UPFs should be taxed and minimally processed foods should be subsidised to make healthier food choices more affordable. Other actions include restricting promotions and all forms of advertising of UPFs, especially those targeting children, and mandatory bold front-of-pack product labeling.

They add that further studies are now needed to determine the underlying mechanisms linking UPF consumption to worse health outcomes. Hypotheses include that UPFs produce lower satiety, meaning that people do not feel full after eating these products, encouraging excess consumption. More research is also needed to explore whether additives in highly processed [food](#) interfere with [biological processes](#), such as hormones influencing appetite and glucose control.

Professor Millett was featured in the recent BBC One documentary "What Are We Feeding Our Kids?" in which he said, "Today in Britain, two in every three calories consumed amongst children and adolescents is derived from this group [of ultra-processed foods]. They're everywhere, they're cheap, and they're heavily marketed. So they're very difficult to resist and very difficult to avoid."

More information: Kiara Chang et al, Association Between Childhood Consumption of Ultraprocessed Food and Adiposity Trajectories in the Avon Longitudinal Study of Parents and Children Birth Cohort, *JAMA*

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