NIHR | Applied Research Collaboration West

ARCBITE

Brokering Innovation Through Evidence

January 2020

Preventing childhood obesity: updating the Cochrane review

Worldwide, the number of children with higher weight is increasing. This can lead to health problems, as well as potentially affecting the children psychologically and socially. Preventing childhood obesity is an international public health priority.

The Cochrane Collaboration reviews medical research findings to help health professionals, patients and policy makers make evidence-based choices about health interventions. These systematic reviews are updated periodically.

Up to 4,000 papers are published every year on preventing childhood obesity. The Cochrane review on preventing childhood obesity had been last updated in 2011.

What was the aim of the project?

We worked with Durham University, Fuse (the Centre for Translational Research in Public Health) and the World Health Organisation to update the Cochrane review with a synthesis of studies up to 2015. Studies published between 2016 and 2018 are also listed in the updated review but weren't investigated in detail.

What did we do?

We searched scientific research databases to find randomised controlled trials (RCTs), the gold standard of research studies, that looked at ways of preventing childhood obesity at all ages. We looked for RCTs aimed at changing children's diet, their level of physical activity or both.

The research is supported by the National Institute for Health Research (NIHR) Applied Research Collaboration (ARC West) at University Hospitals Bristol NHS Foundation Trust.

What we found and what this means

We found 153 RCTs that met our criteria. Most were based in high-income countries such as the USA or countries in Europe. Just over half of the studies focused on 6 to 12-year olds, a quarter on 0 to 5-year olds and the rest were on teenagers.

Comparing children's weight is tricky because children are growing all the time. One way of assessing children's weight is to calculate a score based on their height and weight (the body mass index or BMI), then comparing this to average scores for that country. This is called the zBMI score. We found 61 studies that reported zBMI scores, involving over 60,000 children.

Children aged between 0-5 or 6-12 who changed both their diet and physical activity reduced their zBMI score. But interventions which focussed only on changing diet or on changing physical activity didn't make a lot of difference to zBMI. For teenagers, we found physical activity interventions might reduce zBMI but certainty for this evidence is low.

We looked to see if the strategies to change diet or increase physical activity were likely to work equally for all children, for example girls and boys, children from wealthy or less wealthy backgrounds, and children from different racial backgrounds. There was no indication that the strategies increased inequalities. However, not many studies reported on this so we can't answer this question decisively.

We also looked to see if children were harmed by the strategies, for example by having injuries, losing too much weight or developing damaging views about their weight. Again, not many studies reported this, but in those that did, none reported any harms to the children who had changed their diet or physical activity levels.

What next?

Strategies to change diet, physical activity levels, or both, provide modest effects in reducing zBMI score in children up to the age of 12. For teenagers, strategies to change physical activity levels might also be effective in reducing zBMI score.

This information is useful for parents and children, but also for governments. However, these interventions will be more effective as part of a system-wide approach to reduce environmental factors associated with childhood obesity, for example, changing policies on marketing unhealthy food to young people.

In future, this review will be split into three separate reviews based on child age.

Read the paper

Interventions for preventing obesity in children

Tamara Brown, Theresa Moore, Lee Hooper, Yang Gao, Amir Zayegh, Sharea Ijaz, Martha Elwenspoek, Sophie C Foxen, Lucia Magee, Claire O'Malley, Elizabeth Waters, Carolyn Summerbell

Published in Cochrane Database of Systematic Reviews
bit.ly/CochraneChildhoodObesity

Find out more

arc-w.nihr.ac.uk/cochrane-review

The research is supported by the National Institute for Health Research (NIHR) Applied Research Collaboration (ARC West) at University Hospitals Bristol NHS Foundation Trust.