The dose of behavioural interventions to prevent and treat childhood obesity: a systematic review and meta-regression

Increasingly, a number of behavioural interventions are being developed to support healthy childhood growth and prevent or treat childhood obesity. Contrary to drug treatments, establishing the optimum dose of behavioural interventions to prevent and treat childhood obesity is critical and complicated. Despite limited evidence, “the available literature from behavioural interventions to reduce childhood obesity and its associated complications suggest that there is an association between higher dose and better efficacy.” The purpose of this study was “to review the existing literature on behavioural interventions to prevent and treat childhood obesity and to use quantitative methods to better understand how dose was related to outcome.” The study had two main aims:

1. To describe the distribution of dose in existing behavioural trials for childhood obesity in a range of settings
2. To provide researchers with guidance as future interventions are developed and implemented regarding the minimum dose of a behavioural intervention that would likely be necessary to achieve meaningful and sustainable improvements in childhood obesity.

A total of 133 studies were included in this review. Overall, the systematic review found that there was no association between dose and changes in weight related outcomes. It remains unclear “whether the lack of an association between dose intensity and change in weight-related outcome is because behaviour change is non-linear or whether variability in the reporting of both dose and outcome obscured a relationship.”