Food Consumption by Children and Adults

KIMBERLY L. COLLINS, MD, *University of Washington Family Medicine Residency, Seattle, Washington*
GREG SANDERS, MD, *Sea Mar Family Medicine Residency, Marysville, Washington*

Clinical Question

Do children and adults eat more when offered larger quantities of food?

Evidence-Based Answer

Children and adults consume larger amounts of food when offered larger portions, packages, and individual units. (Strength of Recommendation: B, based on a systematic review of randomized controlled trials.) There is conflicting evidence about whether food offered with larger dishware affects food consumption.

Evidence Summary

A 2015 systematic review of 86 independent comparisons from 58 randomized controlled trials with 6,603 adults and children evaluated whether participants consumed more food when it was offered in various sized portions (measured in volume, weight, or both), packages (e.g., one large bag vs. multiple smaller bags), or individual units, or with different sized dishware (larger vs. smaller dishes or cutlery).[1] Most of the studies looked at consumption based on a single meal. Exposure to larger vs. smaller portions, packages, or dishware increased the quantity of food consumed (standardized mean difference [SMD] = 0.38; 95% confidence interval [CI], 0.29 to 0.46; I^2 = 61%). Overall, daily energy intake would be 11% higher with larger portions, packages, individual units, or dishware (mean difference = 189 kcal; 95% CI, 144 to 228). The increased consumption of food with exposure to larger portions, packages, individual units, or dishware occurred in both adults (70 independent comparisons, N = 5,182; SMD = 0.44; 95% CI, 0.33 to 0.54) and children (22 independent comparisons, N = 1,421; SMD = 0.21; 95% CI, 0.10 to 0.31).

A 2014 meta-analysis of eight trials (three randomized controlled trials; five trials not specified; N = 254), including 15 comparisons, evaluated whether changes in the size of dishware had an effect on food consumption.[2] Larger dishes did not increase the amount of food intake (SMD = –0.18; 95% CI, –0.35 to 0.00). This was true regardless of age or sex.

Address correspondence to Greg Sanders, MD, at sandersletters@gmail.com. Reprints are not available from the authors.

Author disclosure: No relevant financial affiliations.

REFERENCES

1. Hollands GJ, Shemilt I, Marteau TM, et al. Portion, package or tableware size for changing selection and consumption of food, alcohol and tobacco. *Cochrane Database Syst Rev.* 2015;(9):CD011045.
2. Robinson E, Nolan S, Tudur-Smith C, et al. Will smaller plates lead to smaller waists? A systematic review and meta-analysis of the effect that experimental manipulation of dishware size has on energy consumption. *Obes Rev.* 2014;15(10):812-821. ■