

Low Literacy Can Lead to Food 'Portion Distortion'

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(PhysOrg.com) -- How big is a serving of spaghetti or a cup of cranberry juice? Correctly estimating the size of a food serving is important for maintaining a healthy weight, but a new study suggests people with lower literacy levels might have a more difficult time sizing up the foods they eat.

People with high literacy levels are twice as likely as those with low literacy test scores are to dole out a single-sized portion of pasta, pineapple, ground beef and other common foods, according to the study in the April issue of the *American Journal of Preventive Medicine*.

Yet, people with higher literacy levels have troubles estimating portion sizes, too, said Johns Hopkins researcher Mary Margaret Huizinga, M.D., who led the study while at Vanderbilt University. When combining serving data for all the foods in the study, only 62 percent of study participants could serve a specific amount of food accurately when asked, she and colleagues discovered.

For individual foods, “accuracy ranged from 30 percent for beef to 53 percent for juice,” Huizinga said.

“The current super-sizing of many foods may lead Americans to overestimate what a normal portion should be,” she said, “and the overestimation of portion size may lead to overeating and contribute to obesity.”

In their study of 164 patients at a primary care clinic, the researchers tested the participants' verbal and written literacy as well as their understanding of numerical information. They then measured how well the patients were able to estimate a single serving or a specified amount of a variety of foods, using guidelines from the U.S. Food and Drug Administration and the U.S. Department of Agriculture as a standard.

The participants' food preferences, or even how often they ate a particular food, did not seem to affect how well they estimated serving sizes, Huizinga and colleagues noted.

Ballooning portion sizes in restaurants is one factor that prompts people to see large portions as normal, but the same kind of "portion distortion" can happen at home, said Jennifer Fisher, Ph.D., an associate professor of public health at Temple University.

In her studies of how much children eat when faced with normal or super-sized entrees, Fisher found that a family's social and cultural perceptions of "how much is enough" also influenced the portions dished out to children.

"Seeing a large amount of food in front of you can lead you to believe that someone decided this portion was the right amount to eat," she said.

More information: Huizinga MM, et al. Literacy, numeracy, and portion-size estimation skills. *Am J Prev Med* 36(4), 2009.

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