

Editorial

Early Childhood and Adult Obesity Both are Dangerous for Health – Proven by Different Studies

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Childhood

The path toward obesity starts at a young age - even before babies transition to a solid diet, according to a new study.

Almost one-third of 9-month-olds are obese or overweight, as are 34 percent of 2-year-olds, according to the research, which looked at a nationally representative sample of children born in 2001. The study is one of the first to measure weight in the same group of very young children over time, said lead researcher-Brian Moss, a sociologist at Wayne State University in Detroit. The results showed that starting out heavy puts kids on a trajectory to stay that way.

"If you were overweight at nine months old, it really kind of sets the stage for you to remain overweight at two years," Moss told Live Science. According to the Centers for Disease Control and Prevention (CDC), childhood obesity has tripled over the last three decades. In 2008, 19.6 percent of kids between the ages of 6 and 11 were obese.

But less is known about obesity rates in very young children. In fact, researchers hesitate to label children that young as "obese."

Recent studies have raised the alarm about particularly large babies, however. In 2009, paper published in the journal of Pediatrics found that babies who gain weight rapidly in the first six months of life are at increased risk of being obese by age 3. Another study, published in April 2010 in the Journal of Pediatrics, found that heavy 6-month-olds are more likely to be obese as 2-year-olds.

"Studies have shown that exclusive breastfeeding - breastfeeding alone, not breastfeeding combined with bottle-feeding -prevents obesity," said Dr. David McCormick, senior author of the April study at the University of Texas Medical Branch at Galveston. "Getting enough fiber - eating apples instead of drinking apple juice, for example - also helps keep babies on track to a healthy weight. By contrast, improper early introduction of cereal by adding it to an infant's bottle promotes obesity."

Moss and his co-author, William Yeaton of the University of Michigan, used data from a survey called the Early Childhood Longitudinal Study-Birth Cohort, which contains data on 8,900 babies at nine months and

7,500 of those same babies at 2 years. (Some families moved out of the country or didn't respond to the second round of surveys.) The researchers classified the babies' weights based on CDC growth charts, which compare a baby's growth to a standardized growth curve. Kids in the 95th percentile of weight were categorized as "obese," while kids in the 85th to 95th percentile were counted as "at-risk," similar to the adult category of "overweight," Moss said.

Even in the first year of life, many babies fall into these two categories, Moss and his colleagues report in the January/February issue of the American Journal of Health Promotion. In the 9-month age group, 15.2 percent of babies were at-risk and 16.7 percent were obese. Among 2-year-olds, just under 14 percent were at-risk and almost 21 percent were obese.

"So you're seeing, combined, more kids being at-risk and obese [in the 2-year-old age group]," Moss said. "Of that combined total, more kids are obese than at-risk at two years."

The find hints at an unfortunate pattern: Kids who start out heavier end up heavier. Of kids who were normal weight at 9 months old, 75 percent were still normal weight at 2 years. But kids who were at-risk at nine months had only a 50 percent chance of being normal weight at age 2. More than 28 percent of at-risk kids ended up obese by their second birthday.

Obese 9-month-olds showed an even starker pattern. Only 37.6 percent were normal weight at age 2. Just over 18 percent did improve to the at-risk category, but 43.9 percent remained obese.

Obesity prevention efforts should begin as early as the age of two, when children reach a tipping point that could predispose them to obesity later in life, a new study has found.

Childhood obesity has grown into an epidemic over the past decade, reflected in soaring rates of type 2 diabetes and recommendations that paediatricians check toddlers for elevated cholesterol.

"This study suggests that doctors may want to start reviewing the diet of children during early well-child visits", said John W. Harrington, a paediatrician at Virginia's Children's Hospital of The King's Daughters (CHKD).

“By the time they reach eight, they’re already far into the overweight category, making treatment more difficult.”

The study examined records of 111 overweight children from a suburban paediatric practice. All the children had their height and weight measured at least five times during paediatric visits. The average age was 12.

Children whose body mass index (BMI) exceeded 85 percent of the general population were classified as overweight. Researchers charted the recorded body mass index of the children from infancy.

They found that the obese children had started gaining weight in infancy at an average rate of .08 excess BMI units per month. On average, they began this progression at three months of age.

Over half the children could be classified as overweight at two years old, 90 percent before reaching their fifth birthday.

Vu Nguyen, a second year student at Eastern Virginia Medical School, CHKD’s academic partner, said the results surprised him.

“I didn’t think that obesity would start that early,” said Nguyen, who presented the results at a paediatric research scholars programme.

Nguyen conducted the study with Harrington and Lawrence Pasquinelli, a paediatrician with Tidewater Children’s Associates in Virginia Beach.

Adulthood

Obesity is a growing global problem, with 1.8 billion people estimated to be overweight or obese in 2007. Drugs marketed so far to fight obesity have only limited success and, often, severe side-effects. Obesity causes chronic inflammation throughout the body. This inflammation is found in a range of diseases related to obesity, including heart disease and diabetes.

Overeating makes the brain go haywire, prompting a cascade of damage that may cause diabetes, heart disease and other ills, U.S. researchers recently reported.

Eating too much appears to activate a usually dormant immune system pathway in the brain, sending out immune cells to attach and destroy invaders that are not there, research found.

The finding, reported in the journal *Cell*, could help explain why obesity causes so many different diseases. It might also offer a way to prevent, obesity itself.

Link with Breast Cancer

Breast cancer patients who are overweight have more aggressive disease and are likely to die sooner, U.S. researchers reported.

A dangerous type of breast cancer, known as inflammatory breast cancer, was seen in 45 percent of obese patients, compared with 30 percent of overweight patients and 15 percent of patients of healthy weight.

“The more obese a patient is, the more aggressive the disease,” said Dr. Massimo Cristofanilli of the University of Texas M.D. Anderson Cancer Center, who led the study.

“We are learning that the fat tissue may increase inflammation that leads to more aggressive disease.”

Writing in the journal *Clinical Cancer Research*, Cristofanilli and colleagues said they studied 606 women with breast cancer that had spread within the breast.

They classified them according to body mass index or BMI, a globally accepted measure of obesity.

People with BMIs of below 25 are considered normal, while 25-29 marks overweight and 30 or above is clinically obese.

After five years, 56.8 percent of obese women and 56.3 percent of overweight women were still alive. But 67.4 percent of the normal weight women had survived.

More than 56 percent of women of normal weight survived 10 years, compared to 42.7 percent of obese women and 41.8 percent of overweight women.

Link with Reproduction

“Obesity goes far beyond just how a person looks or any physical strain from carrying around extra weight. Particular attention should be paid to our overweight patients,” Cristofanilli said. Many studies have shown that the obese have a greater risk of several types of cancer. British researchers reported in the *Lancet* medical journal that obesity can double the risk of leukemia, multiple myeloma, thyroid cancer, colon and kidney cancers.

Obese men should consider losing weight if they want to have children, a scientist told the 24th annual conference of the European Society of Human Reproduction and Embryology recently. Dr. A Ghayath Shayeb, from the University of Aberdeen, Aberdeen, UK, said that his research had shown that men with a higher body mass index (BMI) had lower volumes of seminal fluid and a higher proportion of abnormal sperm. Dr. Shayeb and colleagues looked at the results of seminal fluid analysis in 5316 men attending Aberdeen Fertility Centre with their partners for difficulties in conceiving. 2037 of these men had complete data on their BMIs. “We felt that it was possible that male overweight might contribute to fertility problems,” he said, “particularly since it is a known risk factor for problems in conceiving among women.”

Link with Cognition

A New Canadian study shows that thinking too much can lead to overeating and thus obesity.

In their study at University Level in Quebec City, Canadian researchers found that the stress of

intellectual work makes people eat more, thus raising their calorie intake and causing obesity.

As part of their study, the researchers asked 14 students to eat at a buffet after performing three easy but different tasks: Just sitting and relaxing; reading and summarizing a test, and doing memory tests on a computer.

The researchers said these three tasks consumed very little energy, with students doing mental work needing just three calories more than those relaxing. But they found that the students ate 203 extra calories after reading and summarizing the test, and 253 more calories after doing the computer-based memory tests. Their blood samples taken before, during and after the three task sessions – also showed that their Glucose and Insulin levels shot up during mental work (computer memory tests).

Explaining this, study leader Jean-Philippe Chaput said that Glucose serves as fuel for brain during any mental or intellectual work.

To meet this need and keep its glucose balance in check, the body might be consuming more food, thus more calories.

“Caloric overcompensation following intellectual work combined with the fact that we are less physically active when doing intellectual tasks, could contribute to the obesity epidemic currently observed in industrialized countries,” he said.

Diet

Heart-healthy diets that reduce calorie intake regardless of differing proportions of fat, protein, or carbohydrate can help overweight and obese adults achieve and maintain weight loss, according to a study.

Researchers from the Preventing Overweight Using Novel Dietary Strategies (Pounds Lost) study found similar weight loss after six months and two years among participants assigned to four diets that differed in their proportions of these three major nutrients.

The diets were low or high in total fat (20 or 40 percent of calories) with average or high protein (15 or 25 percent of calories). Carbohydrate content ranged from 35 to 65 percent of calories. The diets all used the same calorie reduction goals and were heart-healthy-low in saturated fat and cholesterol while high in dietary fiber. On average, participants lost 13 pounds at six months and maintained a nine pound loss at two years. Participants also reduced their waistlines by one to three inches by the end of the study. Craving, fullness, hunger, and diet satisfaction were all similar across the four diets.

“These results show that, as long as people follow a heart healthy, reduced-calorie diet, there is more than one nutritional approach to achieving and maintaining a healthy weight,” said Elizabeth G. Nabel, director, National Heart, Lung, and Blood Institute (NHLBI).

In the Pounds Lost study, 811 overweight and obese adults aged 30 to 70 were assigned to one of four diets, and asked to record their food intake in a diary or an online tool that showed how intake compared with goals. Overweight is defined by having a body mass index (BMI) a calculation of the relationship between weight and height – greater than 25 and less than 30. Those with a BMI of 30 or higher are considered to be obese. 66 percent of American adults are over weight and of those, 32 percent are obese, according to the Centers for Disease Control and Prevention.

Interpreting BMI Results for Pakistani Patients

BMI	Interpretation
18.5 – 23	Normal
>23	Over Weight
>25	Obesity
>30	Severe Obesity
>35	Morbid Obesity

Ref: CMAJ 2006;175:1071-1077

Interpreting Waist Circumference Results

Gender	Normal	High
Women`	<35	>35
Men	<40	>40

Ref: www.medscape.com/viewarticle/542385

Interpreting Visceral Fat Level

Visceral Fat Level	Interpretation
Less Than 09%	Normal
More Than 10\$	High

Ref: Omron@instruction Manual Body Composition Monitor with Scale Model HBF-50

Interpreting Body Fat Percentage Results

Gender	Age	Low	Normal	High	Very High
Women	20-39	<21.0	21.0-32.9	33.0-38.9	>39.0
Women	40-59	<23.0	23.0-33.9	34.0-39.9	>40.0
Women	60-79	<24.0	24.0-35.9	36.0-41.9	>42.0
Men	20-39	<8.0	8.0-19.9	20.0-24.0	>25.0
Men	40-59	<11.0	11.0-21.9	22.0-27.9	>28.0
Men	60-79	<13.0	13.0-24.9	25.0-29.9	>30.0

Ref: Gallagher, et al. Based on NIH / WHO Guidelines for BMI. AMJ Clin Nut. 2007;72(Sept).

Interpreting Skeletal Muscle Percentage results.

Gender	Low	Normal	High
Women	<27	27-33	>33
Men	<37	37-43	>43

Ref: AMJ Clin Nutr.2007;76:378-83