This Month’s Focus—Sleep and Its Impact on What and How Much We Eat

What does sleep have to do with nutrition education? More than we may have thought, based on mounting evidence that people who do not sleep well or sleep enough gravitate toward foods higher in fat and calories. Understanding the implications of the “lack of sack” can help nutrition educators whose clients work swing shift, have two jobs to make ends meet, attend school while working to support a family, or have kids or teens at home whose sleep schedules interfere with their own. In this issue of the Energize Newsletter for Nutrition Educators, we explore some of the recently published studies connecting poor sleep with poor dietary intake, and end with some suggestions for both adults and children. Nutrition educators may want to consider sleep education as one way to help people improve their capacity to make sound food choices and curb obesity.

Consistent Sleep Patterns and Healthy Weight—Going to sleep and waking at the same times each day may be a way to keep body fat in check. Researchers in Utah found that women who had a consistent bed time had lower body fat. Perhaps sleeping in on days off isn’t such a good idea since participants who consistently woke at the same time every day had the least body fat. (Source: BW Bailey et al, “Objectively measured sleep patterns in young adult women and the relationship to adiposity.” American Journal of Health Promotion, published online November 7, 2013.)

Sleep Deprivation Linked to Junk Food Craving—When people gravitate to high-fat, high-sugar foods after a sleepless night, it may be because of the impact of sleep deprivation on their brains. Researchers at the University of California at Berkeley scanned the brains of adults after a good night’s sleep and after a sleepless night. With inadequate sleep, they found impairment of the brain’s frontal lobe which controls decision-making, but increased activity in deeper brain centers that respond to rewards. With this double-whammy, sleep-deprived individuals made poorer dietary choices and had less resistance to food temptation. Subjects in the study viewed 80 pictures of food ranging from fruits and vegetables such as strawberries and carrots, to high-calorie burgers, pizza, and...
doughnuts, and were asked to rate their desire for each food. As an incentive, they were given the food they craved the most after their brain scan. (Source: http://newscenter.berkeley.edu/2013/08/06/poor-sleep-junk-food/)

Sleep-Obesity Connection with Kids – Among the many fingers that can be pointed to the causes of childhood obesity, one seems quite simple: insufficient sleep. In a study of 8- to 11-year-olds, the children were asked to sleep their usual amount during the first week. For the second week, children were randomly selected to reduce or lengthen their amount of sleep. In the third week, the participants completed the opposite sleep schedule. Researchers found that during the week when the kids increased their sleep, they consumed 134 fewer calories, weighed a half-pound less, and had lower fasting levels of leptin. Leptin is a hunger-regulating hormone that is highly associated with the amount of adipose tissue. (Source: CN Hart et al, “Changes in children’s sleep duration on food intake, weight, and leptin.” Pediatrics 132(6), December 1, 2013.)

Challenges of Shift Work – For people who do shift work – and that’s about one-fifth of our population – it can be tough to have a regular sleep schedule. The problem among people who work nights or rotate shifts is so widespread that it even has a name: Shift Work Sleep Disorder. The Cleveland Clinic offers a good explanation and tips to help people who may have this disorder at http://my.clevelandclinic.org/neurological_institute/sleep-disorders-center/disorders-conditions/hic-shift-work-sleep-disorder.aspx.

Grumpy-Hungry and Ghrelin – Going too long without food can make people “hangry” or “grumpy-hungry.” The scientific explanation is that hunger prompts us to be emotional, and often those emotions are stress, irritability, and anxiety, in part because of the appetite hormone ghrelin. Produced in the stomach, ghrelin circulates throughout the body, including the brain, so in addition to stimulating feelings of hunger, it can also produce an anxiety response that goes away when a person eats. An interview with Reed College’s appetite behavior expert Paul Currie is at www.huffingtonpost.com/2013/09/06/grumpy-hungry-angry-hunger-ask-healthy-living_n_3824775.html, more about ghrelin at www.vivo.colostate.edu/hbooks/pathphys/endocrine/gi/ghrelin.html.

Sleep Deprivation and Food Shopping Create a Perfect Storm for Men – What a difference a good night’s sleep can make in men’s food purchases! Researchers gave men a fixed budget ($50), on two different mornings, who were then asked to buy as much as they could out of 40 possible items. After a sleepless night, men purchased significantly more calories (+9%) and grams of food (+18%) than after a night of good sleep. (Source: CD Chapman et al, “Acute sleep deprivation increases food purchasing in men.” Obesity, 21(12):E555-560, December 2013.)

Exercise and Sleep, a Two-Way Street – One of the tips for sleeping well at night is to get some exercise during the day. Now research suggests that the reverse is also true: adults who slept well were more likely to participate in exercise the next day. (Source: KG Baron, “Exercise to improve sleep in insomnia: Exploration of the bidirectional effects.” Journal of Clinical Sleep Medicine 9(8):819-824, August 2013.)

Suggestions for Sound Slumber – With busy work and household schedules, getting a good night’s sleep can be a challenge. Here are some suggestions:

- Keep the bedroom cool, dark, and quiet.
- Stop the use of media (television, internet, smart phones) an hour before bedtime.
- Have a calming routine before bed (soak in a warm bath, listen to soothing music).
- Avoid reading anything that might cause anxiety or worry.
- Try not to exercise or eat a big meal within two or three hours of bedtime
- Avoid caffeine (coffee, tea, soft drinks, chocolate) close to bedtime.
- Avoid alcohol close to bedtime since it can lead to disrupted sleep later in the night.
- Follow a regular sleep schedule, going to bed and waking up at the same time each day, even on weekends.

It may be a challenge to follow these suggestions if children in the household aren’t sleeping well. Cornell Cooperative Extension offers these tips to help children with bedtime: http://ccetompkins.org/family/parent-pages/importance-bedtime.

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IN THE MEDIA

Changes to the Nutrition Facts Label – The Nutrition Facts label is getting a face lift! First Lady Michelle Obama recently unveiled the proposed changes, including big, bold type for the number of calories. Outdated serving sizes will be replaced with amounts typically consumed today. Potassium and vitamin D will be added because many Americans don’t get enough of these key nutrients, and vitamins A and C will become optional. The proposed updates to the 20-year-old label reflect new dietary guidelines, consensus reports, recommendations from the Institutes of Medicine, and NHANES (National Health and Nutrition Examination Survey (NHANES). To read more about FDA’s proposed changes, see http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm385663.htm.

Americans Cut Calories – Good news: Americans decreased their daily calorie intake by 118 calories (about 5%) from 2005 to 2010. Adults ate away from home less and spent 13% less money on eating out. They ate at home more often, increased the number of meals eaten with family members, and had more home-cooked meals (rather than food prepared elsewhere but eaten at home). These results are from an evaluation of the most recent NHANES data. (Source: JE Todd, “Changes in eating patterns and diet quality among working-age adults, 2005-2010. Economic Research Service of the US Department of Agriculture, January 2014.)

WASHINGTON GROWN

Fresh This Month – Will this rain ever end? Washington State is poised to break the record for having the wettest March ever. Although the spring growing season is around the corner, for now we’re still eating local winter vegetables and tree fruit that has stored well, like apples and pears. When the weather is gray and blustery, it can be a good time to roast root vegetables such as potatoes, carrots, yams, and turnips. By roasting many at once, they can be used later in salads, on pasta, and in soups. Other sturdy vegetables can be roasted along with the roots, such as cauliflower and butternut squash.

DID YOU KNOW?

A full moon can disturb sleep. In the four days around the full moon, people took five minutes longer to fall asleep, slept 20 minutes less, and said their sleep had been poorer. Poets and tellers of folk tales weren’t “loony” after all. (Source: C Cañach et al, “Evidence that the lunar cycle influences human sleep.” Current Biology 23(15):1485-1488, July 2013.

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