The Skinny on Work: obesity on the job

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I have no conflicts of interest to disclose

Objectives

- Obesity on the job
- Identify the occupations with highest prevalence of obesity
- Summarize the work factors associated with risk of obesity

Occupations and obesity?

Luckhaupt et al. (2014) American Journal of Preventive Medicine
www.bls.gov/oesh/
Prevalence of obesity in the US workforce

Luckhaupt et al. (2014). American Journal of Preventive Medicine
Prevalence of Self-Reported Obesity among US Adults 2015

Obesity Trends Among U.S. Adults

Healthy worker effect
Social relational aspects of work

<table>
<thead>
<tr>
<th>Prevalence ratio</th>
<th>Social factors</th>
<th>Prevalence Ratio (95% CI)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Hostile work environment</td>
<td>1.02 0.98 0.92</td>
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<tr>
<td></td>
<td>Job insecurity</td>
<td>1.26 1.13 1.11</td>
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<tr>
<td></td>
<td>Work family imbalance</td>
<td>1.13 1.05 1.02</td>
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• 43% of people eat more when stressed
• 36% skip a meal


http://www.cdc.gov/niosh/topics/stress/
So far we have seen evidence for:

- Long work hours
- Shift work
- Sleep duration
- Hostile work environment
- Job stress

Other areas being researched:
- Food environment
- Sedentary job
- Peer group norms
- Labor laws
- Obesogens

Antunes, (2010). Nutrition Research Reviews
Patel, (2016). Obesity
Food environment

People Take Twice as Many Candies when They’re on the Desk than when 6 Feet Away


Sedentary job

Rezende, (2014). PloS ONE

Income level may contribute to the higher prevalence of obesity in the United States than in similar countries

Obesogens

• Endocrine disrupting chemicals (EDCs) act by altering some aspect of hormone action
• “metabolic disruptors” are EDCs associated with obesity
  • Promote the number and size of fat cells
  • Shift energy balance to favor storage
  • Alter gut microbiota to promote food storage
  • Alter the hormones of appetite control (satiety and hunger)
  • Alter brain circuits controlling food intake
  • Impact insulin levels


Note: Comparable countries here include Australia, Canada, Germany, Japan, and the United Kingdom. Data for Australia are for 2011 and data for Canada are for 2013.
Mice exposed to arsenic in utero

- The control mouse was not exposed to arsenic during embryonic development and is a normal weight.
- In comparison, mice exposed to arsenic at 10 parts per billion, center, and 42 parts per million are visibly heavier. The study also determined that these exposed mice entered puberty earlier than controls.

Why does it matter?

- Obesity is a disease
- At work:
  - Lost productivity from diseases attributable to overweight and obesity estimated at $988.8 billion

Weight-related comorbidities:
- Cardiovascular disease
- Hypertension
- Diabetic microvascular disease
- Diabetic neuropathy
- Depression
- Gallstones
- Stress urinary incontinence
- Urinary tract infections
- Infertility
- Gestational diabetes
- Degenerative joint disease
- Chronic back pain
- Plantar fasciitis
- Carpal tunnel syndrome
- Osteoporosis
- Cataracts
- All cancers except esophageal and pancreatic

Illness and injury

Absent from work

- Rodriguez KF, et al. 2015. Environ Health Perspectives
- Hammond (2010). Diabetes, Metabolic Syndrome and Obesity
- Rush, (2016). Obesity
- Ostbye (2007). Archives Internal Medicine
- Kuh, (2016). Obesity

Obesity: A Multi-Disciplinary Approach to Weight, Health and Performance
NIOSH Total Worker Health

- The National Institute for Occupational Safety and Health (NIOSH) takes the Total Worker Health approach
- TWH recognizes work as a social determinant of health

Your role as a health care provider

U.S. Preventative Services Task Force

- Screen all adults for obesity.
- Clinicians should offer or refer patients with a body mass index (BMI) of 30 kg/m² or higher appropriate weight loss advice
1. At every patient visit health care providers should:
   A. Avoid talking about weight
   B. Screen all adults for obesity & offer appropriate weight loss advice
   C. Blame the patient for their weight status
   D. Refer those with BMI >25 to treatment

2. Weight related co-morbidities include:
   A. Degenerative joint disease
   B. Fatty liver disease
   C. Sleep apnea
   D. All of the above
3. Which of the following is NOT an example of the Total Worker Health™ integrative approach?

A. Stress management at work that address workplace stressors and provides ways to help build individual resiliency
B. Combined Safety and Health Promotion committees
C. Gym membership discounts for workers
D. Comprehensive screenings for work-related and non–work-related health risks

Thank you!

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Useful References