Obesity and the workplace

The recent publication of a massive global study (9.1 million participants in 199 countries and territories over 28 years) serves to reemphasize the astonishing worldwide spread of human obesity [1]. Between 1980 and 2008, mean body mass index (BMI) increased 0.4 kg/m² per decade in men and 0.5 kg/m² per decade in women. Across those three decades, age-standardized obesity rates doubled: by 2008, there were an estimated 1.46 billion overweight (BMI ≥ 25 kg/m²) adults in the world, of whom 502 million were obese (BMI ≥ 30 kg/m²). Of particular concern to many readers of this journal, the greatest rates of increase among men in all countries were in the UK, the USA and Australia; among women in high-income countries, the greatest rates of increase were in the USA, New Zealand and Australia.

Strictly speaking obesity is not an occupational disease, but its global epidemic poses significant current challenges to occupational health professionals. Moreover, the ‘global tsunami’ of obesity will almost certainly demand increasing commitments from occupational health programmes in coming years. Four related issues deserve attention. First, obesity exacts an enormous societal cost in terms of reduced well-being and human lives lost. Second, huge financial costs result from the care and treatment of those with obesity-related diseases. Third, obesity adversely affects workplace costs by decreasing worker productivity and increasing the need for support services and disability management. Fourth, the work environment might contribute to increased overweight and obesity, but it may also provide opportunities for addressing the problem.

The direct health impacts of obesity are widely recognized. Obesity plays a critical role as a risk factor for cardiovascular disease and mortality, although its pathogenic mechanisms are not fully understood. It increases the prevalence and severity of cardiovascular risk factors, including type II diabetes, elevated non-HDL cholesterol, reduced HDL cholesterol and both systolic and diastolic hypertension [2]. Also, independent of other risk factors, obesity has been directly associated with increased risks of fatal coronary events [3]. Accordingly, the contribution of obesity to cardiovascular morbidity and mortality in working populations is substantial. Likewise, obesity is an important risk factor for numerous other significant diseases, from fatty liver and cirrhosis to chronic renal failure and from osteoarthritis to obstructive sleep apnoea [4–7].

More insidious, obesity has been linked to a variety of human cancers. Recent systematic reviews and meta-analyses indicate positive and generally significant associations between obesity and the following types of cancer [8,9]: oesophagus (adenocarcinoma), colon, rectum, liver, gall bladder, pancreas, thyroid, endometrium, breast (post-menopausal), prostate, multiple myeloma, non-Hodgkin’s lymphoma and leukaemia. An array of biological mechanisms has been proposed to explain these associations, including mechanical force, cellular hypoxia, alterations of endocrine pathways and activation of inflammatory processes [10]. Other possible mechanistic explanations include excess intake of specific carcinogenic dietary constituents (rather than the adiposity resulting from excess dietary intake) and the capacity of body fat to sequester and concentrate lipophilic toxicants.

Regarding financial concerns, it has been proposed that obesity-associated health care costs are greater than those attributable to smoking, drinking and poverty [11]. In the USA, analyses of the 2006 Medical Expenditure Panel Survey, a representative sampling of the non-institutionalized national population, indicate that annual US obesity-related medical costs were about $86 billion, including $30.3 billion for full-time employed adults [12,13]. As might be expected, these costs reflect a positive ‘dose–response’; per capita medical expenditures increased as BMI increased, from $148 (overweight) to $1269 (BMI ≥ 40 kg/m²) in men and from $529 to $2395 for corresponding groups of women. We can anticipate that per capita and total health care costs will continue to climb as more people become obese and as obese people grow heavier.

The adverse workplace effects of obesity are also daunting. Obesity is associated with substantially increased rates of absenteeism (i.e. more days out of work) and presenteeism (i.e. reduced productivity while at work) [11,13,14]. Obese workers take more sick days, have longer sick leaves and incur greater productivity losses than do non-obese workers. Some analyses estimate that the costs to employers of obesity-related presenteeism are greater than the direct costs of the medical care required by those workers [13].

Obesity also increases workers’ compensation expenses. Obese workers file more compensation claims, have more costly claims and have more lost workdays than do non-obese workers. For example, a study of compensation claims at a US university compared two worker groups, those with class III obesity (BMI ≥ 40 kg/m²) versus those with recommended body weight (BMI 18.5–24.9 kg/m²) [14]. The obese workers averaged twice as many claims [11.65 versus 5.8 per 100

© The Author 2011. Published by Oxford University Press on behalf of the Society of Occupational Medicine. All rights reserved. For Permissions, please email: journals.permissions@oup.com
full-time equivalents (FTEs)] and had roughly 10-fold increases in loss of workdays (183.63 versus 14.19 per 100 FTEs), medical claims costs ($51 091 versus $7503 per 100 FTEs) and indemnity claims ($59 178 versus $5396 per 100 FTEs).

Finally, it is necessary to determine whether current work environments actually encourage obesity. An inconsistent body of findings has raised that possibility, suggesting that overweight and obesity are related to job stress, shift work and long work hours [11]. Such a possibility, especially in light of evidence that shift work is associated with increased risks of cancer, underscores the need to determine whether and how the organization and pattern of work assignments might contribute generally to adverse health and how they might be modified to enhance worker well-being.

All things considered, it seems clear that occupational health professionals must be actively engaged in addressing these staggering concerns. As a matter of public health, we cannot ignore obesity in the workplace, even if the workplace environment is not directly causal. There are a range of possible interventional approaches. Some employers, for example, have adopted programmes to incentivize weight loss and the maintenance of recommended body weight, encourage exercise, and promote healthy diets. Although their long-term success is generally unproven, the short-term results of such interventions are encouraging and adoption of such health promotion programmes should be widely supported.

Unfortunately, a large literature and much anecdotal evidence document that voluntary weight loss is generally difficult to achieve, usually limited in magnitude and often temporary. For example, few studies have documented the long-term health benefits of voluntary weight loss because, with the exception of post-bariatric surgery patients, only limited numbers of obese individuals have achieved and maintained recommended body weight. There is also evidence that many primary care physicians are uncomfortable managing obesity and often fail to do so [15]. Weight loss may offer important health benefits, but those benefits are not easily realized.

Accordingly, these challenges will require more than just well-intentioned support and encouragement. Our societal health and economic well-being require a systematic, structural approach to obesity management, an approach in which occupational health programmes will play an increasingly critical role. Along with workplace education, dietary consultations and other standard approaches to lifestyle changes, this may be the right reason to institutionalize ‘libertarian paternalism’, the idea that private and public institutions can systematically (and legitimately) affect behaviour in order to ‘nudge’ people in directions that will make their lives go better, without eliminating freedom of choice [16]. For example, in the spirit that led many employers to ban workplace smoking, occupational health professionals should encourage employers to make work sites ‘junk food free’, instead providing healthier alternatives in cafeterias and vending machines. All in all, implementing workplace-centred behavioural focusing seems preferable to the prospects of caloric rationing.

Jonathan Borak
Yale University School of Medicine
e-mail: jonathan.borak@yale.edu

References

5. Ejerblad E, Fored CM, Lindblad P et al. Health professionals must be actively engaged in addressing these staggering concerns. As a matter of public health, we cannot ignore obesity in the workplace, even if the workplace environment is not directly causal. There are a range of possible interventional approaches. Some employers, for example, have adopted programmes to incentivize weight loss and the maintenance of recommended body weight, encourage exercise, and promote healthy diets. Although their long-term success is generally unproven, the short-term results of such interventions are encouraging and adoption of such health promotion programmes should be widely supported.

Unfortunately, a large literature and much anecdotal evidence document that voluntary weight loss is generally difficult to achieve, usually limited in magnitude and often temporary. For example, few studies have documented the long-term health benefits of voluntary weight loss because, with the exception of post-bariatric surgery patients, only limited numbers of obese individuals have achieved and maintained recommended body weight. There is also evidence that many primary care physicians are uncomfortable managing obesity and often fail to do so [15]. Weight loss may offer important health benefits, but those benefits are not easily realized.

Accordingly, these challenges will require more than just well-intentioned support and encouragement. Our societal health and economic well-being require a systematic, structural approach to obesity management, an approach in which occupational health programmes will play an increasingly critical role. Along with workplace education, dietary consultations and other standard approaches to lifestyle changes, this may be the right reason to institutionalize ‘libertarian paternalism’, the idea that private and public institutions can systematically (and legitimately) affect behaviour in order to ‘nudge’ people in directions that will make their lives go better, without eliminating freedom of choice [16]. For example, in the spirit that led many employers to ban workplace smoking, occupational health professionals should encourage employers to make work sites ‘junk food free’, instead providing healthier alternatives in cafeterias and vending machines. All in all, implementing workplace-centred behavioural focusing seems preferable to the prospects of caloric rationing.

Jonathan Borak
Yale University School of Medicine
e-mail: jonathan.borak@yale.edu

References
