

Is it time for a public-health approach to eating disorders?

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On March 27, the BBC news website reported that over 13 months, 206 children under 12 years were treated for an eating disorder in Britain and Ireland. These children included a 6-year-old girl, who presented to a paediatrician with food avoidance, excessive exercising, and fear of weight gain. In February, several newspapers reported that social services were considering taking an 8-year-old boy into care because he weighed more than 89 kg. Although these are extreme and rare cases, they highlight common problems associated with food. 10% of children are now classified as overweight or obese, and disorders such as bulimia affect 1% of adolescent girls and anorexia nervosa 0.5%. So what can public-health professionals do to promote the maintenance of a healthy weight?

For obesity the answers seem clear. The main preventable causes—overeating and lack of exercise—are well researched. Public-health interventions to change individual behaviour patterns and effectively address the environmental barriers to physical activity and healthy food choices are the best way forward. Such measures

include subsidising healthy foods, improving urban planning to promote exercise, and reducing children's exposure to junk-food advertising.

But can a similar public-health approach be taken for eating disorders? Although it is known that social, psychological, and biological factors play a part in eating disorders, not enough is known about risk factors to develop effective preventive measures. Despite this, a few prevention studies have been attempted. Some have involved training participants to view media and cultural messages of thin ideals with a critical eye and to foster psychological resilience to pressures to control weight. But such studies lack a sound theoretical basis or strong study design. They have also focused on change at the individual level rather than the larger social environment.

Traditionally then, the approach to managing eating disorders has focused on treatment. But since a public-health approach is crucial in controlling obesity, is it time to reconsider investing research into a similar approach for eating disorders? ■ [The Lancet](#)

For more on curbing the obesity epidemic see [Editorial](#) *Lancet* 2006; 367: 1549

The risks of nanotechnology for human health

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Last week a report from the UK Council for Science and Technology criticised the Government for not funding more research into the toxicology, health, and environmental effects of nanotechnologies. The current knowledge gap about the impact of nanoparticles on human health is cause for concern.

Nanoparticles—which are the width of 2–10 atoms, that is, less than 100 nanometres—could potentially invade body systems with possible health consequences. For example, nanomaterials, such as metal oxides and carbon nanotubes, could theoretically behave like quartz dust or asbestos particles and result in similar damaging effects on the respiratory system. Studies to date show that the human body's normal defence mechanisms treat nanoparticles like micro-organisms but nanoparticles could link together to form fibres that are too large to be engulfed by macrophages. Nanoparticles with a high proportion of transition metals might have reactive surfaces that could alter the particles' toxicity and consequently harm human cells.

The rapid recent rise in nanomedicine has led to exciting developments in gene therapies, targeted drug-delivery systems, array techniques, molecular imaging, and implant devices. Most of these rely on techniques that manipulate nanoparticles so that they can bypass the human body's defence mechanisms, which might imply that less desirable nanoparticles could also penetrate into cells or cross natural barriers. However, the UK's Medicine and Healthcare products Regulatory Agency (MRHA) recently concluded that existing regulatory frameworks and trial safety procedures were sufficient to cover the use of nanotechnologies in medicines and medical devices.

The MRHA has now decided to stop participating in the British Standards Institute's Nanotechnology Standardisation Committee—a situation which the Institute describes as “deeply worrying”. The MRHA should immediately re-engage with the development of standards for nanotechnologies. The unknown and under-researched health effects of nanotechnologies make it unwise to draw any concrete conclusions about their long-term safety. ■ [The Lancet](#)

For the Council for Science and Technology review on nanosciences and nanotechnologies see www.cst.gov.uk

For the MHRA review of the regulation of nanotechnologies in medicine see www.mhra.gov.uk/home/idcplg?ldcService=SS_GET_PAGE&noldd=996