Commentary: Obesity claims and controversies

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Campos et al.1 present four ‘claims’, which they regard as untrue. Below we react to their discussion.

Claim #1 ‘Almost all countries (high-income and low-income alike) are experiencing an obesity epidemic… WHO, 2003 (p. 61).’

There is very strong evidence to indicate that this is true, i.e. that the incidence of obesity is increasing in most of the countries in which we have information.2-5 The authors question the use of the word epidemic, a point we will not belabour except to say that definitions of epidemic are not confined to infectious diseases but rather rest on a health phenomenon being ‘clearly in excess of normal expectancy’.6,7 Campos et al. argue that incidence of overweight and obesity exaggerate the increase in weight in the population, as many have crossed the threshold into the next category while ‘the majority of people (weigh) ~3-5 kg more than they did a generation ago’. Incidence is a key measure in epidemiology, which is used widely and not considered ‘an exaggeration’. We agree that the increased incidence of obesity has resulted from a rightward shift in the BMI curve, and we think this shift is important. To quote Geoffrey Rose,8 ‘a large number of people at a small risk may give rise to more cases of disease than the small number of people at a high risk.’ As a solution, Rose stresses the importance of changing the whole distribution to achieve a shift in the direction of prevention. The key here is taking a population-based rather than an individual-based perspective.

Claim #2: ‘Mortality rates increase with increasing degrees of overweight, as measured by BMI. WHO, 2003 (p. 61).’

Results differ depending on the population studied and the methods used, but the vast majority of studies show a linear, U-shaped or J-shaped association between BMI and mortality. In these studies, there is a mortality rate increase with increasing BMI, but the BMI at which the increase begins varies. One recent analysis of NHANES data9 indicated that over the past few decades there may have been a shift to the right in the BMI level at which mortality begins to increase. In the recent NHANES study BMI was analysed in broad categories. Additional studies analysing BMI as a continuous variable will be of interest.

It should be noted that many studies in experimental animals have shown that those kept shorter live longer than heavier animals.10,11 Recently, a study by Vasselli et al.12 examined the question of weight loss and mortality in an animal model. They showed that rats that were kept lean throughout their lives had the lowest mortality, and rats maintained at an obese weight had highest mortality. Animals who were made obese and then made to lose weight had mortality comparable with the consistently lean rats (slightly higher, but not significantly so, and significantly lower than the consistently obese animals).

Claim #3: ‘The data linking overweight and obesity to adverse health outcomes are well established and incontrovertible.’

The trick in this claim is the word ‘incontrovertible.’ This word indicates a level of absolute certainty that is not compatible with scientific discussion. We cannot produce incontrovertible evidence that human disease is not caused by extraterrestrial aliens. Substituting the word ‘convincing,’ we believe that the claim is true. However, it is possible that some of the ‘link’ between obesity and adverse health outcomes is driven by positive energy balance rather than by adiposity per se. Long-term positive energy imbalance is, of course, the cause of excess adiposity, and a higher net amount of energy is required to maintain a higher weight. We are interested in the possibility that weight maintenance in an obese individual could have a beneficial impact on some of the adverse health effects associated with obesity (albeit probably not as beneficial as negative energy balance). This is an area of interest for future study, but even if positive energy imbalance rather than excess adiposity is the direct cause of some morbidity, the solution will be the same: increased physical activity and reduced energy in the diet.

Claim #4: ‘significant long-term weight loss is a practical goal, and will improve health.’

Certainly no one would say significant long-term weight loss is an easy goal, but that does not make it impractical. People can and do achieve it, as the National Weight Control Registry and other data demonstrate.13,14 A clear understanding of the impact of weight loss on mortality is made difficult by confounding by diagnosed and undiagnosed disease. Nevertheless, there is ample evidence to support that adoption of a lifestyle that reduces excess weight by means of a healthy diet and increased physical activity will improve health.15,16

Conclusion

Two key points should be kept in mind: (i) the global population is getting heavier, (ii) there remains no doubt that there are
serious health consequences to being obese. Any confusion regarding the nature of the consequences should be a call for more research, rather than less, so as to understand what is occurring.

Campos et al. accuse the obesity research community of conjuring up a problem in order to attract dollars in the supposed face of evidence that obesity is not really a threat to public health. This is not a matter of pot calling the kettle black; it is a matter of the leopard calling the zebra spotted. It is our opinion that for decades obesity was not given adequate attention by the scientific community. It is a complex problem not easily prevented or treated by our current medical systems. It will probably require a new paradigm that integrates medical and public health services. The currently available treatments have less than stellar success rates, and it is difficult to get reimbursement for delivery of treatment. Further, there is documentation of prejudice against obese people, even among physicians. It is possible that advances in medical treatments have reduced the toll that obesity takes on health. However, obesity remains an exceptionally important preventable cause of disease and death. Finally, after many years of inattention the scientific community has turned its considerable resources to obesity. The vast majority of researchers and practitioners champion this move, not because it will increase their personal fortune but because it offers the opportunity to make important improvements in human health. It would be most unfortunate if misunderstandings about the risks associated with obesity were to de-rail the current momentum.

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