

EDITORIAL

Editors' note: Omitting obesity treatment leads to poor outcomes, even in those who appear to be metabolically healthy

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The *International Journal of Obesity* (IJO) recently has published several papers focusing on the rigor of obesity research. In a continuation of this theme, three papers in this issue are of interest. These papers deal with the concepts of 'obesity paradox' (OP) and of 'metabolically healthy obesity' (MHO). Obesity paradoxes are manifested by reportedly better outcomes or decreased mortality in relation to certain diseases in obese/overweight patients than in normal weight patients. Metabolically healthy obesity is obesity characterized by the absence of any of the metabolic complications of obesity other than an increased waist circumference. Authors proposing the existence of OP and MHO make the assumption that these are benign forms of obesity that do not require treatment and that insurance and government health programs should not assume costs of such treatment. In the August 2017 issue of IJO, Banack *et al.*¹ proposed that the OP does not exist due to the issue of collider bias that produces a fatal flaw. A letter by Peeters² in this issue agrees with Banack *et al.* and states, 'The real problem with collider bias, compared to other forms of bias, is that there is no way to attenuate it. In other words, a body mass index-mortality study restricted to those with a body mass index-related chronic disease cannot be made free of bias.'

Two papers in this issue deal with MHO. Bradshaw *et al.*³ and Espinosa De Ycaza *et al.*⁴ conclude that MHO may not exist. Bradshaw *et al.* studied 3969 patients for 9 years with an 81% follow-up rate and found that the hazard ratios of developing one or more of the risk factors of the metabolic syndrome ranged from 1.54 to 2.33 in the MHO group compared to normal weight patients. Espinosa De Ycaza *et al.* studied 18 071 patients from the Mayo Clinic at baseline and found that 1805 were MHO and 3048 were metabolically healthy normal weight (MHNW). After a median follow-up of 15 years, 80% of MHO vs 68% of MHNW developed at least one cardiometabolic risk factor ($P < 0.001$). A limitation of these studies was that, despite increased metabolic risk factors, mortality rates were not reported or were not

significant with OP or MHO, so additional research will be needed. Recommendations not to treat obese/overweight patients with OP and MHO demonstrate the subtle bias against obesity compared to other diseases. The evidence is becoming overwhelming that obesity is a major disease with bad outcomes. The three papers in this issue suggest that physicians should strongly consider treating obesity when it is present, even without complications. Insurance companies and governments must recognize the adverse effects to individuals and the cost to society of obesity. It is shameful that obesity treatment is either not covered or is very poorly covered by the third party payers of many countries. Obese patients deserve better.

CONFLICT OF INTEREST

RLA is a consultant to Novo Nordisk and the owner of Obetech LLC, a company that has multiple patents regarding adipogenic adenoviruses and sells a diagnostic assay for adenovirus 36. IAM is a member of Scientific Advisory Boards for Mars Inc., Nestle, IKEA, Zaluvida, and a member of the Scientific Advisory Committee on Nutrition for the UK Government's Public Health England.

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REFERENCES

- 1 Banack HR, Stokes A. The 'obesity paradox' may not be a paradox at all. *Int J Obes* 2017; 41: 1162–1163.
- 2 Peeters A. Journals should no longer accept 'obesity paradox' articles. *Int J Obes* 2018; 42: 584–589.
- 3 Bradshaw PT, Reynolds KR, Wagenknecht LE, Ndumele CE, Stevens J. Incidence of components of metabolic syndrome in the metabolically healthy obese over 9 years follow-up: the Atherosclerosis Risk in Communities Study. *Int J Obes* 2018; 42: 295–301.
- 4 Espinosa De Ycaza AE, Donegan D, Jensen MD. Long-term metabolic risk for the metabolically healthy overweight/obese phenotype. *Int J Obes* 2018; 42: 302–309.