

# We now live in a world in which more people are obese than underweight, major global analysis reveals

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In the past 40 years, there has been a startling increase in the number of obese people worldwide—rising from 105 million in 1975 to 641 million in 2014, according to the most comprehensive analysis of trends in body mass index (BMI) to date, published in *The Lancet*.

The age-corrected proportion of obese men has more than tripled (3.2% to 10.8%), and the proportion of obese women has more than doubled (6.4% to 14.9%) since 1975. At the same time, the proportion of underweight people fell more modestly—by around a third in both men (13.8% to 8.8%) and women (14.6% to 9.7%).

Over the past four decades, the average age-corrected BMI increased from 21.7kg/m<sup>2</sup> to 24.2 kg/m<sup>2</sup> in men and from 22.1kg/m<sup>2</sup> to 24.4 kg/m<sup>2</sup> in women (figure 1), equivalent to the world's population becoming on average 1.5kg heavier each decade. If the rate of obesity continues at this pace, by 2025 roughly a fifth of men (18%) and women (21%) worldwide will be obese, and more than 6% of men and 9% of women will be [severely obese](#) (35 kg/m<sup>2</sup> or greater).

However, excessively low body weight remains a serious public health issue in the world's poorest regions, and the authors warn that global trends in rising obesity should not overshadow the continuing underweight problem in these poor nations. For example, in south Asia almost a quarter of the population are still underweight, and in central

and east Africa levels of underweight still remain higher than 12% in women and 15% in men.

"Over the past 40 years, we have changed from a world in which underweight prevalence was more than double that of obesity, to one in which more people are obese than underweight," explains senior author Professor Majid Ezzati from the School of Public Health at Imperial College London, London, UK. "If present trends continue, not only will the world not meet the obesity target of halting the rise in the prevalence of obesity at its 2010 level by 2025, but more women will be severely obese than underweight by 2025."

He adds, "To avoid an epidemic of severe obesity, new policies that can slow down and stop the worldwide increase in body weight must be implemented quickly and rigorously evaluated, including smart food policies and improved health-care training."

The findings come from a comprehensive new analysis of the global, regional, and national trends in adult (aged 18 and older) BMI between 1975 and 2014. For the first time, this includes the proportion of individuals classified as underweight (less than 18.5 kg/m<sup>2</sup>), and severely obese (35 kg/m<sup>2</sup> or higher) and morbidly obese (40 kg/m<sup>2</sup> or higher).

The Non-Communicable Disease (NCD) Risk Factor Collaboration pooled data from 1698 population-based studies, surveys, and reports totalling 19.2 million men and women aged 18 years or older from 186 countries (covering 99% of the world's population). Studies were only included if height and weight had been measured to avoid the bias arising from self-reported data. The research team used these data and statistical modelling to calculate average BMI and the prevalence of BMI categories like underweight, obesity, and severe obesity for all countries and years between 1975 and 2014. They found that rates of obesity surpassed those of underweight in women in 2004 and in men in 2011.

Country by country BMI and rankings available below - highlights include:

- Women in Singapore, Japan, and a few European countries including Czech Republic, Belgium, France, and Switzerland had virtually no increase in average BMI (less than  $0.2 \text{ kg/m}^2$  per decade) over the 40 years.
- Island nations in Polynesia and Micronesia have the highest average BMI in the world reaching  $34.8 \text{ kg/m}^2$  for women and  $32.2 \text{ kg/m}^2$  for men in American Samoa. In Polynesia and Micronesia more than 38% of men and over half of women are obese.
- Timor-Leste, Ethiopia, and Eritrea have the lowest average BMI in the world. Timor-Leste was the lowest at  $20.8 \text{ kg/m}^2$  for women and Ethiopia the lowest at  $20.1 \text{ kg/m}^2$  for men.
- More than a fifth of men in India, Bangladesh, Timor-Leste, Afghanistan, Eritrea, and Ethiopia, and a quarter or more of women in Bangladesh and India are still underweight.
- Among high-income English-speaking countries, the USA has the highest BMI for both men and women (over  $28 \text{ kg/m}^2$ ). More than one in four severely obese men and almost one in five severely obese women in the world live in the USA.
- Men in Cyprus, Ireland, and Malta ( $27.8 \text{ kg/m}^2$ ), and women in Moldova ( $27.3 \text{ kg/m}^2$ ) have the highest average BMI in Europe. Bosnian and Dutch men (both around  $25.9 \text{ kg/m}^2$ ) and Swiss women ( $23.7 \text{ kg/m}^2$ ) have the lowest average BMI in Europe.
- The UK has the third highest average BMI in Europe for women equal to Ireland and the Russian Federation (all around  $27.0 \text{ kg/m}^2$ ) and tenth highest for men along with Greece, Hungary, and Lithuania (all around  $27.4 \text{ kg/m}^2$ ).
- Almost a fifth of the world's obese adults (118 million) live in just six high-income English-speaking countries—Australia, Canada, Ireland, New Zealand, UK, and USA. Over a quarter

(27.1%; 50 million) of the world's severely [obese people](#) also live in these countries (figure 9).

- By 2025, the UK is projected to have the highest levels of obese women in Europe (38%), followed by Ireland (37%) and Malta (34%). Similar trends are projected in men, with Ireland and the UK again showing the greatest proportion (both around 38%), followed Lithuania (36%). By comparison, 43% of US women and 45% of US men are predicted to be obese in 2025.

Writing in a linked Comment, Professor George Davey Smith from the MRC Integrative Epidemiology Unit, School of Social and Community Medicine, Bristol, UK discusses "a fatter, healthier but more unequal world". He points out that although in high income countries obesity is a major and growing problem, under-nutrition in low income countries remains a major health issue, including for the offspring of seriously under-weight women. He writes, "A focus on obesity at the expense of recognition of the substantial remaining burden of undernutrition threatens to divert resources away from disorders that affect the poor to those that are more likely to affect the wealthier in low income countries."

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