

Overweight versus Obese: Different Risk and Different Management

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Body mass index (BMI) is a widely accepted calculation of adiposity in human beings. Standard BMI ranges (Table I) signify categories of excess weight that have been linked to risk for a variety of health conditions, including hyperlipidemia, diabetes mellitus, hypertension, sleep apnea, stroke, and cardiovascular disease. Recently, the accuracy with which the categories indicate risk of death has come into question. Similarly, the question of whether a given BMI represents the same degree of risk across racial and ethnic groups is being considered. The answers to these questions might affect how providers counsel patients about weight loss.

Body Mass Index and Mortality Rates

Two large meta-analyses by Flegal and associates^{1,2} examined the association between BMI and risk of death. The first¹ involved 97 studies that used standard BMI categories in reporting hazard ratios for all-cause death. A hazard ratio of 1.0 suggests that a condition or factor imparts no increased risk of death when compared with a reference (lowest-risk) group. Values less than 1.0 suggest less risk than in the reference group. Values greater than 1.0 suggest greater risk than in the reference group. The systematic review encompassed 2.88 million individuals and 270,000 deaths. Using standard BMI categories, the study suggests that, in considering the impact of BMI status on risk of death, only stage 2 obesity—BMI ≥ 35 —results in an increased risk (Table II).¹ The 2nd large study,² a meta-analysis of 8 large observational studies, involved 5.8 million individuals and 582,000 deaths. This study, like the previous one, used hazard ratios to describe risk of death, but it subdivided standard normal-weight and overweight BMI categories into smaller ranges. In women, BMI values between 23 and 25 were identified as the reference group; however, there was no significantly increased risk of death in women with values between 20 (normal-weight category) and 27 (low-overweight category). The study did not subdivide stage I obesity into smaller ranges, and its findings suggest an increased risk of death for women whose BMI is ≥ 30 .²

Body Mass Index, Mortality Rates, and Special Populations

Although data appear to support the need to reevaluate concerns about mortality risk at low levels of excess weight, it is worth considering whether these findings apply to individuals with comorbid conditions that increase the risk of cardiovascular disease. In a study of individuals with type 2 diabetes mellitus (a known cardiovascular disease equivalent), hazard ratios for death are higher at all BMI levels greater than 25.³ If an individual has diabetes, any excess weight increases the risk of death.

Evidence suggests variable effects of excess weight on different ethnic populations. In a study examining the effect of BMI on life expectancy in women, black women were found to lose fewer years of life with increasing BMI, when compared with white women. In addition, the impact of excess weight on life expectancy did not result until white women were at least class II obese (BMI ≥ 30) and black women were at least class III obese (BMI ≥ 40).⁴ A separate study explored the risk of developing traditional cardiovascular disease risk factors in terms of BMI and racial group. Each increase in BMI above 25 resulted in a larger proportional increase in prevalence of cardiovascular disease risk factors (diabetes mellitus, hypertension, and low high-density-lipoprotein cholesterol levels), in whites when compared with blacks.⁵ Again, this study suggests that there might be different effects of BMI on individuals from different ethnic and racial groups.

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Clinical Implications

Although there is growing evidence that *all-cause risk of death* does not increase for women who are overweight—or black women who are class I obese—without comorbid conditions, this does not mean that weight management can be ignored in these groups. Clinicians should instead consider varying levels of weight-management intensity tailored to individual patients and their risk (Table III). Adults who do nothing to manage their weight will gain 1 to 2 pounds per year. For individuals without comorbid conditions who are overweight, or who in some cases are mildly obese, providers may do best to stress the importance of weight-gain prevention. A medium-intensity intervention in overweight and class I obese black women was successful in preventing weight gain. A menu of measurable health practices (walking

10,000 steps/d, watching <2 hr television/d, avoiding sugar-sweetened beverages, avoiding fast food, eating breakfast every day, and avoiding late-night eating) was used, in addition to regular weighing, to help patients with self-monitoring.⁶ For individuals with comorbid conditions, especially pre-diabetes or diabetes, or class II obesity, providers should strongly encourage weight loss for risk reduction. Intensive lifestyle interventions like the Diabetes Prevention Program (7% weight loss and 150 min/wk physical activity) or the use of weight-loss medications (phentermine, orlistat, phentermine/topiramate combination, and lorcaserin) might be appropriate in higher-risk groups.

TABLE I. Standard Body Mass Index Categories

Normal Weight	Overweight	Obese
18.5–24.9 kg/m ²	25–29.9 kg/m ²	≥30 kg/m ²

TABLE II. Summary Hazard Ratios of All-Cause Mortality for Overweight and Obesity, Compared with Normal Weight¹

Body Mass Index	Summary All-Cause Mortality Hazard Ratio (95% CI)	Significance
18.5–24.9	1.00	Reference
25–29.9	0.94 (0.91–0.96)*	<i>P</i> < 0.05
30–34.9	0.95 (0.88–1.01)*	<i>P</i> < 0.05
≥35	1.29 (1.18–1.41)*	<i>P</i> < 0.05

*indicates significant heterogeneity (*P* < 0.05).

CI = confidence interval

TABLE III. Approach to Weight Management

Weight Category	Management Goal	Strategies
<ul style="list-style-type: none"> Normal weight Overweight without comorbidities 	Weight-gain prevention	<ul style="list-style-type: none"> Self-monitoring Balanced-diet Moderate activity 30 min most days
<ul style="list-style-type: none"> Obese, class I without comorbidities 	Weight-gain prevention or weight loss	<ul style="list-style-type: none"> See above and below
<ul style="list-style-type: none"> Obese, class II or higher Overweight/obese + pre-diabetes or diabetes 	Weight loss	<ul style="list-style-type: none"> Intensive lifestyle intervention Pharmacotherapy

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