

38. OBESITY AND PREDIABETES STATE

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Introduction. Prediabetes is a high-risk state for the development of diabetes and its associated complications. Recent data have shown that in developed countries, more than one-third of adults have prediabetes and in most of them it is associated with obesity.

Aim of study. Obesity promotes a chronic, low-grade, inflammatory state, which is associated with vascular dysfunction, thrombotic disorders, multiple organ damage, and metabolic dysfunction. These physiological effects ultimately lead to the development of a range of morbidities, including prediabetes. Prediabetes raises short-term absolute risk of Diabetes five-to sixfold. It can be delayed or sometimes prevented in individuals with obesity who are able to lose weight, improving glycemic control and cardiovascular disease risk factors. This can be achieved medically with behavioral therapies that combine diet and exercise treatment or with behavioral therapies combined with weight-loss medications or weight-loss surgery.

Methods and materials. We analyzed a range of studies that show the relation between obesity and prediabetes. The first represented by body mass index (BMI) and the second, defined using glycated hemoglobin (HbA1c).

Results. Depending on ethnicity, age and gender, 50-90% of prediabetic patients exhibit a BMI over 25 kg/m², while patients with BMI over 35 kg/m² are almost 20 times more likely to develop prediabetes or Diabetes, compared to individuals with BMI in the normal range 18.5-24.9 kg/m². Large-scale population studies have shown that obesity is the most important independent risk factor for prediabetes. In adults, the relative risk for prediabetes begins to increase even at BMI values within the normal weight range, 24 kg/m² for men and 22 kg/m² for women, while it rises exponentially with increasing BMI over 30 kg/m². Thus, morbid obesity is associated with markedly high relative risk for prediabetes in both genders.

Conclusion. Obesity has a huge impact on the appearance and development of prediabetes. Even modest weight loss is important for Diabetes prevention, significantly reducing the risk and delaying the onset of the disease. Among individuals within a healthy BMI range, the prevalence of prediabetes and abdominal obesity has substantially increased.