

| Authors | Type of study | Population characteristics | Type of intervention | Duration | End point | Results | Conclusion | Strength of evidence |
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| Cea-Soriano L et al, 2021 | Cohort prospective study | 1184 participants with prediabetes based on levels of fasting plasma glucose and/or glycated hemoglobin | Hazard ratios of diabetes onset were estimated by Cox proportional regression models associated to high versus low/medium adherence to Mediterranean diet. Different propensity score methods were used to control for potential confounders. | 4,2 years | Evaluate the effect from high adherence to Mediterranean diet on the risk of diabetes | Incidence rate of diabetes in participants with high versus low/medium adherence to Mediterranean diet was 2.9 versus 4.8 per 100 persons-years. The hazard ratios adjusted for propensity score and by inverse probability weighting (IPW) had identical magnitude: 0.63 (95% confidence interval, 0.43-0.93). The hazard ratio in the adjusted model using propensity score matching 1:2 was 0.56 (95% confidence interval, 0.37-0.84). | These propensity score analyses suggest that high adherence to Mediterranean diet reduces diabetes risk in people with prediabetes. | Moderate |
| Filippatos TD et al, 2016 | Cohort Prospective Study | 3042 men and women (>18y) were enrolled for the study. | In 2011 and 2012, the 10-year follow-up examinations were performed, | 10 years | Examine the effect of the Mediterranean diet on diabetes and CVD risk in | The prediabetic subjects (343) had a significantly higher incidence of diabetes (25% | High adherence to the Mediterranean diet is associated with a low risk of | Moderate |

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| | | | including a working sample of n = 1875 participants without diabetes at baseline. Adherence to the Mediterranean diet at baseline evaluation was assessed using the MedDietScore (range 0-55). | | subjects with impaired fasting glucose (IFG, i.e. fasting plasma glucose 100-125 mg/dl). | vs. 10%, p < 0.001) and CVD (17.8% vs. 12.3%, p = 0.007) compared with subjects with normal glucose values. A significant trend towards lower diabetes and CVD incidence was observed with medium and high adherence to the Mediterranean diet compared with low adherence (p < 0.001). High adherence to the Mediterranean diet (>35/55 score) was associated with lower 10-year incidence of diabetes and CVD. | developing diabetes and CVD in prediabetic subjects | |
| Saslow LR et al, 2017 | Parallel-group randomized (1:1) trial | Randomize 34 adults with glycated hemoglobin (HbA1c) > 6.0% and elevated body weight (BMI > 25) to a LCK diet (n = 16) or a MCCR diet (n = 18) | Participants attended 19 classes, All participants were encouraged to be physically active, get sufficient sleep, and practice behavioral adherence | 12 months | Considerable uncertainty exists about the optimal level of carbohydrate intake. Previous research suggests that an ad libitum very low-carbohydrate ketogenic diet | Compared to the MCCR group, the LCK group reported consuming fewer non-fiber grams of carbohydrates (6 and 12 months), more grams of fat (6 and 12 months), | Adults with prediabetes or noninsulin-dependent type 2 diabetes may be able to improve glycemic control with less medication by following an ad libitum very low- | High |

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| | | | strategies based on positive affect and mindful eating. | | (LCK) may improve metabolic measures in adults with T2DM and reduce the need for diabetes-related medications | and more grams of protein (12 months), but not a different number of calories per day | carbohydrate ketogenic diet compared to a moderate-carbohydrate, calorie-restricted low-fat diet. | |
| Saslow LR et al 2014 | Randomized pilot trial | Enrolled and randomized 34 participants to the MCCR (n=18) or LCK (n=16) diet groups. | MCCR diet (medium carbohydrate, low fat, calorie-restricted, carbohydrate counting diet) consistent with guidelines from ADA. LCK diet (very low carbohydrate, high fat, non calorie-restricted diet)whose goal is to induce a low level of ketosis, here referred to as LCK (low carbohydrate, ketogenic) | 3 months | Compared a MCCR representative of conventional diabetic diet recommendations to a LCK (≤ 50 g carbohydrates per day not including fiber) in persons with HbA1c $>6.0\%$. The primary outcome measure was change in glycated hemoglobin (HbA1c) from baseline to 3 months. | Both groups had significant weight loss, even though the LCK group tended to lose more weight than the MCCR group (although only significant to the $p=0.09$ level), even though only the MCCR group aimed to restrict calories. | In overweight and obese individuals with type 2 diabetes, a very low carbohydrate, high fat, non calorie-restricted diet may be more effective at improving blood glucose control than a medium carbohydrate, low fat, calorie-restricted, carbohydrate counting diet that remains the standard for most diabetes education efforts. | High |

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| Gardner CD et al, 2022 | Randomized, crossover, interventional trial | 40 participants aged ≥18 years with prediabetes or T2DM followed the well-formulated ketogenic diet (WFKD) and the Mediterranean-plus diet (Med-Plus) for 12 weeks each, in random order. | Compared 2 low-carbohydrate diets with 3 key similarities (nonstarchy vegetables, avoid added sugars and refined grains) and 3 key differences (avoid legumes, fruits, and whole, intact grains) for their effects on glucose control and cardiometabolic risk factors in individuals with prediabetes and T2DM. | 3 months | The primary outcome was the percentage change in glycated hemoglobin (HbA1c) after 12 weeks on each diet. | The primary analysis was of 33 participants with complete data. The HbA1c values did not differ between diets at 12 weeks. | HbA1c values were not different between diet phases after 12 weeks, but improved from baseline on both diets, likely due to several shared dietary aspects. | High |
| Li L et al, 2022 | Prospective observational study | 9793 adults with prediabetes from the NHANES 1999-2014 (age>20years old) | Dietary intake was measured by 24-h recalls in the NHANES. From 1999 to 2002, one 24-h dietary recall was conducted in person in the NHANES Mobile Examination Center. From 2003 to 2014, dietary intake was measured by a 24-h dietary recall for 2 nonconsecutive days. | 15 years | Examine the associations of different types of lower-carbohydrate diets (LCDs) and lower-fat diets (LFDs) with mortality among individuals with prediabetes. | Higher healthy LCD score was associated with favorable blood glucose, insulin, HOMA-IR, C-reactive protein (CRP), and blood lipids, whereas higher healthy LFD score was associated with lower blood glucose and CRP at baseline (all P-trend < 0.05). | Healthy LCD and LFD scores were significantly associated with lower all-cause mortality, whereas unhealthy LCD and LFD scores tended to be associated with higher all-cause mortality, among people with prediabetes. | Moderate |

