Methods: We conducted a systematic review and meta-analysis of the effect of a low GI/GL diet on body weight. We searched databases Medline, EMBASE, and Cochrane Library (through June 26 2014). We selected randomized controlled trials ≥12 weeks in duration reporting body weight. The intervention diet was either low GI or GL compared against high GI/GL diets. We extracted all relevant data, which was pooled using the generic inverse variance method using random effects models and expressed as mean differences (MD) with 95% CIs. Heterogeneity was assessed by the Cochran Q statistic and quantified by the I^2 statistic. Study quality was assessed using the Heyland Methodological Quality Score (MQS)[1] and to assess risk of bias the Cochrane Collaboration Risk of Bias Tool[2] was used.
Results: Eligibility criteria were met by 28 RCTs (31 comparisons) including 2,778 participants who were healthy (n=43), had type 2 diabetesmellitus (n=693), was overweight or obese (n=2382), or had the metabolic syndrome (n=448). Low GI/GL diets did not significantly decrease body weight compared to high GI/GL diets (MD= -0.44kg (95% Cis -0.92, 0.05 kg)) with evidence of substantial heterogeneity (p<0.05). Most of the trials were of short duration (<12 weeks) and of poor quality (MQS<8).
Limitations: Most of the trials were of short duration (<12 weeks) and of poor quality (MQS<8) with substantial unexplained inter-study heterogeneity.
Conclusion: Low GI/GL diets do not lead to significantly more weight loss than high GI/GL diets. To address the sources of uncertainty, there is a need for larger, longer, higher quality trials.
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21. Starch Intake and Incidence of Type 2 Diabetes: A Systematic Review and Meta-Analysis of Prospective Cohorts
(Sandhya Pudaruth)

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Objective: To investigate the association between starch intake and incidence of type 2 diabetes.
Methods: MEDLINE, EMBASE, and The Cochrane Registry were searched through February 10, 2015. Prospective cohort studies in humans investigating the association between starch intake and incidence of type 2 diabetes were included. Full article review and data extraction were conducted by two independent investigators. Pool analyses were conducted using the generic inverse variance method with random effects models. Interstudy heterogeneity was assessed using the Cochran Q (X^2) statistic and quantified by I^2 statistic.
Results: 12 prospective cohort studies were included with a total of 137,840 otherwise healthy and non-diabetic participants. The risk ratio for incident type 2 diabetes comparing the highest to the lowest quintile of starch intake was 0.90 g (95% CI, 0.81, 1.00 g), I^2 = 0%, P =0.04.
Conclusion: Our meta-analysis found that starch, regardless of the amount consumed was related with a reduced risk of type 2 diabetes. Our evidence is supported by prospective cohort studies only, and more research clarifying the mechanisms by which starch reduces the risk for type 2 diabetes should be explored.