

Whey Protein Supplementation and Type 2 Diabetes Mellitus Risk Factors: A Scoping Review of Systematic Reviews and/or Meta-Analyses of Randomized Controlled Trials

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Objectives: Emerging research on whey protein supplementation WPS suggests it may be a potential modifier of type 2 diabetes mellitus (T2DM) risk factors, including glycemic regulation. As systematic reviews and/or meta-analyses of RCTs are gaining importance in nutrition literature, we conducted a scoping review to systematically search and chronicle published systematic reviews and/or meta-analyses of RCTs pertinent to WPS and T2DM modifiable risk factors.

Methods: The protocol was conducted in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) guidelines. Potentially eligible articles were identified via a systematic search of five electronic health

research databases (PubMed, Cochrane Library, CINAHL (EBSCO), Scopus, and SPORTDiscus). Included articles were assessed for quality using the AMSTAR-2 critical appraisal tool.

Results: Eight of the 1,692 identified articles met the inclusion criteria. Of the 8 included articles, the outcomes related to T2DM risk factors reported in articles were as follows; 4 included HDL-cholesterol and triglycerides; 3 included fasting blood glucose, total cholesterol, LDL-cholesterol, and body weight; 1 included fasting insulin, HbA1c, blood pressures BMI, and CRP. The results of AMSTAR 2 critical appraisal tool showed that of the 8 included articles, 5 were deemed high quality, 2 were deemed moderate quality, and 1 article was deemed low quality.

Conclusions: Results of the scoping review identified no published systematic reviews and/or meta-analyses of RCTs that provide a comprehensive assessment specifically pertaining to the effects of WPS on T2DM modifiable risk factors. Future systematic reviews and/or meta-analyses of RCTs specifically investigating the effects of WPS on modifiable T2DM risk factors in a comprehensive manner are warranted.

Funding Sources: The Whey Protein Research Consortium