



Association Between Adherence to the Dietary Approaches to Stop Hypertension Diet and the Risk Of Metabolic Syndrome: A Systematic Review of Prospective Cohort Studies

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ABSTRACT

Introduction: Metabolic syndrome (MetS) is a cluster of conditions that elevate the risk of atherosclerotic cardiovascular disease. The metabolic disorders that characterize MetS include central obesity, hypertension, high triglyceride levels, decreased levels of high-density lipoprotein cholesterol (HDL-C), and increased fasting blood glucose levels. Due to the sedentary lifestyle and consumption of unhealthy diets, the prevalence of MetS has significantly increased. In this regard, a healthy diet based on dietary approaches to stop Hypertension (DASH) can be an appropriate intervention that can improve metabolic problems. Available evidence supports the hypothesis that adherence to the DASH diet may be associated with the Mets; however, the results of previous studies have not been entirely consistent. We conducted a systematic review to assess the relationship between DASH diet and MetS adherence.

Search Strategy: A systematic search was conducted in online databases, including PubMed, Web of Science, Scopus, and Google Scholar, up to June 2024 without publication date or language restrictions. Search terms included "DASH" OR "dietary approaches to stop hypertension" AND "MetS" OR "Metabolic syndrome." Then, appropriate prospective cohort studies were selected based on the inclusion and exclusion criteria.

Results: After screening related articles, considering the inclusion and exclusion criteria, seven prospective cohort studies with a total sample size of 314,196 people and 14,752 cases of MetS were included in the systematic review. The cohort studies showed an inverse association between adherence to the DASH diet and the risk of MetS. In addition, the results of a cohort study on patients with diabetes, dyslipidemia, and hypertension showed that adherence to the DASH diet reduces the risk of Mets in this population.

Conclusion and Discussion: Our findings demonstrate that adherence to the DASH diet can be associated with a lower risk of MetS and its components. However, further studies with a randomized controlled trial design are needed.

Keywords: Dietary approaches to stop hypertension, Metabolic syndrome, Systematic review