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Dietary pattern analysis and biomarkers of low-grade inflammation: a systematic literature review

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Abstract

The purpose of the present literature review was to investigate and summarize the current evidence on associations between dietary patterns and biomarkers of inflammation, as derived from epidemiological studies. A systematic literature search was conducted using PubMed, Web of Science, and EMBASE, and a total of 46 studies were included in the review. These studies predominantly applied principal component analysis, factor analysis, reduced rank regression analysis, the Healthy Eating Index, or the Mediterranean Diet Score. No prospective observational study was found. Patterns identified by reduced rank regression as being statistically significantly associated with biomarkers of inflammation were almost all meat-based or “Western” patterns. Studies using principal component analysis or *a priori*-defined diet scores found that meat-based or “Western-like” patterns tended to be positively associated with biomarkers of inflammation, predominantly C-reactive protein, while vegetable- and fruit-based or “healthy” patterns tended to be inversely associated. While results of the studies were inconsistent, interventions with presumed healthy diets resulted in reductions of almost all investigated inflammatory biomarkers. In conclusion, prospective studies are warranted to confirm the reported findings and further analyze associations, particularly by investigating dietary patterns as risk factors for changes in inflammatory markers over time.

Keywords: [chronic inflammation](#), [dietary patterns](#), [low-grade inflammation](#), [systematic review](#)

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