

ASSOCIATION BETWEEN DIETARY FATTY ACID COMPOSITION AND DIABETES RENAL DISEASE: A SYSTEMATIC REVIEW AND META-ANALYSIS OF OBSERVATIONAL STUDIES

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OBJECTIVE Some studies have shown beneficial effects of fatty acids on diabetes kidney disease. This meta-analysis was performed to evaluate the association between dietary fatty acid composition and diabetes renal disease. **RESEARCH DESIGN AND METHODS** PubMed, LILACS, Cochrane and EMBASE were investigated up to February 2017 for observational studies that assessed the intake and serum composition of fatty acids and the presence of diabetes renal disease. Two independent reviewers assessed the eligibility of each report based on predefined inclusion criteria. Mean and standard deviation of the content in the diet or in the blood of fatty acids, or confidence intervals at the lowest and highest percentile were extracted. **RESULTS** Seven articles were included in the systematic review and five in the meta-analysis (n=1.265). The dietary polyunsaturated fatty acids were inversely associated with diabetes renal disease (-1.95% [IC 95%: -3.57 to -0.32]). An inverse association was also observed between the presence of diabetes renal disease and the proportion of serum polyunsaturated fatty acids (-0,63% [IC 95%: -0,85 to -0,40]). The monounsaturated fatty acids presented an inverse, but not statistically significant association with the diabetes renal disease (-0.69% [IC 95%: -1.50 to 0.12]). Analyzing the dietary saturated fatty acids, no association with diabetes renal disease was observed. **CONCLUSION** A lower intake of polyunsaturated fatty acids appears to be associated with the presence of diabetes renal disease. However, the small number of studies and great heterogeneity among them are limiting factors for this conclusion.