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Does n-3 PUFAs lower the inflammation markers in type 2 diabetic mellitus populations? A systemic review and meta-analysis of randomized controlled trials

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To explore the possible role of n-3 polyunsaturated fatty acids (PUFAs) in lowering inflammation markers in individuals with type 2 diabetes mellitus. PubMed, CNKI and Cochrane databases were searched until December 30, 2015; references from papers or reviews were also retrieved and screened. Screening was performed by two independent researchers, and randomized controlled trials reporting the specific n-3 PUFAs type, dose, frequency, and duration of treatment, as well as the baseline and follow-up concentrations of inflammation markers, including interleukin 2 (IL-2), interleukin 6 (IL-6), tumor necrosis factor alpha (TNF- α) and C-reactive protein (CRP), were selected for final analysis. Data analysis was performed using RevMan 5.2 software. Eight studies involving 955 participants were included; all reported CRP. Only one included study reported IL-2 or IL-6 while two studies reported TNF- α . N-3 PUFAs significantly reduced CRP concentration compared with control [SMD 95% CI, 1.90 (0.64, 3.16), Z=2.96, P=0.003 and random effect model]. N-3 PUFAs decreased the CRP concentration in type-2 diabetes mellitus. However, larger and rigorously designed RCTs are required to confirm this finding and extend it into other inflammatory biomarkers.

Biography

Ning Lin has completed her PhD from Second Military Medical University, Shanghai, China. She is a Clinical Nutritionist working in Chengdu Military General Hospital. She has published more than 19 papers in both English and Chinese journals and has also published 6 book chapters in Chinese.

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