

Effects of Zinc on Cardiovascular Diseases and Type 2 Diabetes

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Introduction:

Zinc (Zn) after iron is the second common trace element in the body which present in every living cell. It is found in over 300 different enzymes. A sufficient intake of zinc is important as it supports the body in a range of key functions, including immune function, protein synthesis, wound healing, DNA synthesis and cell division. Also it is essential for therapeutic effects on Type 2 diabetes mellitus (DM); Daily average zinc supplementation of 39 mg per day can be effective in lowering blood levels of the lipid profiles which have important roles on existing CVD. However, the associations between zinc status and the prospective risks of cardiovascular diseases (CVD) and Type 2 DM have not been evaluated yet.

The current review aims to determine the relationships between serum zinc levels and prospective incidence of CVD and Type 2 DM.

Material and methods:

Papers reporting both CVD and Type 2 DM were included in this study. Search of the literature was conducted in the following databases; PubMed, Web of Science and Scopus for studies published before September 2018.

Results:

Most of the Primary analyses reported no association between zinc and CVD events, when adjusted for multiple variables. Higher serum zinc level was associated with lower risk of CVD in studies; pronounced effects were observed in vulnerable populations, specifically those with Type 2 DM and patients referred to coronary angiography.

Conclusion:

The limited available evidence shows no association between zinc status, Type 2 DM and CVD risk. Further investigations are required to establish a relationship of zinc to the prevention of CVD and Type 2 DM.

Keywords: Zn, Cardiovascular Diseases ,Type 2 Diabetes