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Abstract

Title: Does supplementation with zinc improve the insulinsensitivity in pregnant women with insulinresistance?
A systematic review

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Background: Gestational diabetes is a type of diabetes generated during pregnancy. Gestational diabetes defined as an intolerance of glucose and is similar to type 2 diabetes mellitus. It is usually manifested in the third trimester when metabolic changes upcomes to meet mother and child’s needs of nutrition. Complications of mother and child both during and after pregnancy may occur. Articles have shown that zinc may have a favorable effect of the insulin sensitivity in people with diabetes.

Objektive: The aim of this systematic review is to examine if supplements with zinc can improve insulin sensitivity in women with gestational diabetes or IGT.

Search strategy: The literature searches were performed in three databases; Pubmed, Scopus and Cochrane using the search terms diabetes, gestational (MeSH), zinc (MeSH) and "zinc supplementation".

Selection criteria: Inclusion criteria were RCTs, articles in English, supplementation with zinc, pregnant women with gestational diabetes or IGT and human studies. Exclusion criteria were intake of zinc from food.

Data collection and analysis: Three articles where chosen and were reviewed with SBU’s ”Mall för kvalitetsgranskning av randomiserade studier”. The selected endpoints evidence was graded using the University of Gothenburg template "Underlag för sammanvägd bedömning enligt GRADE”.

Main results: One study showed a significant improvement in insulin sensitivity and one study showed that women in the intervention group needed less medication with insulin. One study showed no significant difference in insulin sensitivity within groups.

Conclusions: There is moderately (+++ evidence that zinc supplementations improves insulin sensitivity in pregnant women with insulinresistance and a low (++ evidence that zinsupplementation reduce medication of insulin in pregnant women with insulinresistance.

Keywords: Gestational diabetes, zinc and zinc supplementation