



UNIVERSITY OF LEEDS

This is a repository copy of *The Role of Zinc in Depressed Pregnant and Non-Pregnant Women: A Systematic Review and Meta-Analysis*.

White Rose Research Online URL for this paper:  
<https://eprints.whiterose.ac.uk/164676/>

Version: Published Version

---

**Conference or Workshop Item:**

Page, NB, Brown, AM, Pascoe, E et al. (6 more authors) The Role of Zinc in Depressed Pregnant and Non-Pregnant Women: A Systematic Review and Meta-Analysis. In: 13th European Nutrition Conference, FENS 2019, 15-18 Oct 2020, Dublin, Ireland.

<https://doi.org/10.1017/S0029665120004917>

---

**Reuse**

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

**Takedown**

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing [eprints@whiterose.ac.uk](mailto:eprints@whiterose.ac.uk) including the URL of the record and the reason for the withdrawal request.



[eprints@whiterose.ac.uk](mailto:eprints@whiterose.ac.uk)  
<https://eprints.whiterose.ac.uk/>



The 13th European Nutrition Conference, FENS 2019, was held at the Dublin Convention Centre, 15–18 October 2019

## The Role of Zinc in Depressed Pregnant and Non-Pregnant Women: A Systematic Review and Meta-Analysis

Nadine B. Page<sup>1</sup>, Anna M. Brown<sup>1</sup>, Erin Pascoe<sup>2</sup>, Sally Braithwaite<sup>3</sup>, Michelle L. Townsend<sup>4</sup>, Jane S. Herbert<sup>4</sup>, Hilary Davies<sup>1</sup>, Kathryn H. Hart<sup>1</sup> and J. Bernadette Moore<sup>5</sup>

<sup>1</sup>University of Surrey, Guildford, United Kingdom,

<sup>2</sup>St. Peter's Hospital NHS Foundation Trust, Chertsey, United Kingdom,

<sup>3</sup>Surrey and Borders Partnership NHS Foundation Trust, Guildford, United Kingdom,

<sup>4</sup>University of Wollongong, Wollongong, Australia and

<sup>5</sup>University of Leeds, Leeds, United Kingdom

### Abstract

Perinatal depression is a depressive illness that affects 10–15% of women in the UK with an estimated cost of £1.8 billion/year. Zinc deficiency is associated with the development of mood disorders and zinc supplementation has been shown to help reduce the symptoms of depression. Women who are pregnant and breastfeeding are at risk of lower levels of zinc because of the high demand from the developing and feeding baby. However, studies in the perinatal period are limited. With a long-term aim of designing a randomised controlled trial (RCT) to examine if zinc supplementation reduces depressive symptoms in pregnant and lactating women; the objective of this review was to systematically evaluate previous RCTs assessing zinc supplementation and depressive symptoms, in order to establish a zinc dosing regimen with regards to Galenic formulation, unit dose and frequency. The review was conducted by independent reviewers in accordance with PRISMA guidelines and is registered at Prospero (CRD42017059205). The Allied and Complimentary Medicine, CINAHL, Embase, MEDLINE, PsycINFO, PubMed, and Cochrane databases were searched since records began, with no restrictions, for intervention trials assessing Galenic formulation, unit dose and frequency of zinc supplementation to reduce the symptoms of depression. From a total of 66 identified records, 7 articles met the inclusion and exclusion criteria; all assessed the effect of zinc supplementation on mood. Risk of bias was independently assessed using the standard 'Cochrane risk of bias tool'. Overall, 5 of the 7 papers were rated as high-quality trials; of the other two, one was rated poor and the other fair but both had a number of learning points. Preliminary findings indicate at the end of supplementing zinc, depression scores were reduced significantly. In one study, the Beck score decreased in the placebo group, but this reduction was not significant compared to the baseline. In two of the studies there was a significant correlation between serum zinc and self-reported mood questionnaires. Results also suggest that 25 mg zinc supplementation combined with antidepressant drugs can be effective in the treatment of major depression in women. This supports other work where researchers supplemented 25 mg of elemental zinc for 12 weeks or longer and found a reduction of symptoms in both pregnant and non-pregnant women. Thus, an early conclusion is that 25 mg of elemental zinc is an effective dose for improving low mood and is achievable in a trial setting.

### Conflict of Interest

There is no conflict of interest