**Objectives and Background**

Historically, some of the most effective public health interventions have been micronutrient fortification of food (e.g., iodine, fluoride). One of the main reasons for this is high coverage of the population.

Epidemiological studies suggest that low dietary calcium may account for the exceptionally high prevalence of pre-eclampsia/eclampsia in many low-income countries. If this etiological link is true, staple food fortification with calcium has the potential to have a profound impact on the health and survival of pregnant women (as well as other health benefits for the community). Nevertheless, to date there has been no research on the effect of calcium supplementation commencing before pregnancy.

This is a randomized, placebo-controlled trial with the objective to determine the effect of calcium supplementation before and in the first half of pregnancy on incidence of pre-eclampsia, hypertension and other pregnancy outcomes in women with a previous pre-eclampsia or eclampsia. The hypothesis is that calcium supplementation commenced before pregnancy reduces the incidence of recurrent pre-eclampsia more effectively than supplementation starting at 20 weeks’ gestation.

**Geographic location**

Hospital/maternity centres in Argentina, South Africa and Zimbabwe.

**Main deliverables**

The primary outcome is the incidence of pre-eclampsia (recurrent pre-eclampsia). Secondary outcomes include complications and two composite outcomes.

The trial enrolled 1355 non-pregnant women of whom 651 conceived during the study. Calcium supplementation before pregnancy was associated with a 20% non-statistically significant reduction of pre-eclampsia (95% CI 0.61-1.06), a 18% statistically significant reduction of pre-eclampsia or pregnancy loss (95% CI 0.66-1.00). A manuscript with the main finding of the RCT has been prepared.

**Partners**

Effective Care Research Unit, East London, South Africa

University of British Columbia, Vancouver, Canada

World Health Organization, Geneva, Switzerland

Institute for Clinical Research and Effectiveness (IECS), Buenos Aires, Argentina

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