

# Effect of oral magnesium supplementation on insulin sensitivity and blood pressure in apparently healthy overweight adults: a randomised double-blinded controlled trial

**Submission date**  
27/11/2007

**Recruitment status**  
No longer recruiting

☐ Prospectively registered

☐ Protocol

**Registration date**  
18/12/2007

**Overall study status**  
Completed

☐ Statistical analysis plan

☒ Results

**Last Edited**  
08/04/2021

**Condition category**  
Nutritional, Metabolic, Endocrine

☐ Individual participant data

## Plain English summary of protocol

Not provided at time of registration

## Contact information

### Type(s)

Scientific

### Contact name

Prof Sang Yeoup Lee

### Contact details

Family Medicine  
Pusan National University Hospital  
1-10 Ami-dong  
Seo-gu  
Busan  
Korea, South  
602-739

## Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

## Secondary identifying numbers

N/A

# Study information

## Scientific Title

Effect of oral magnesium supplementation on insulin sensitivity and blood pressure in apparently healthy overweight adults: a randomised double-blinded controlled trial

## Study objectives

We analysed whether magnesium supplementation affected insulin sensitivity and Blood Pressure (BP) in apparently healthy Korean subjects as well as in individuals with diabetes and hypertension.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Ethics approval received from the Food Institutional Review Board of Pusan National University Hospital on the 3rd January 2006 (ref: 2006-01).

## Study design

Randomised double-blinded controlled trial

## Primary study design

Interventional

## Secondary study design

Randomised controlled trial

## Study setting(s)

Not specified

## Study type(s)

Treatment

## Participant information sheet

## Health condition(s) or problem(s) studied

Overweight, obesity

## Interventions

12.3 mmol (300 mg) of elemental magnesium per day in the form of magnesium oxide or placebo. The total duration of treatment and the total duration of follow up are both 12 weeks (i. e., no follow-up).

## Intervention Type

Supplement

## Phase

Not Specified

**Drug/device/biological/vaccine name(s)**

Magnesium supplementation

**Primary outcome measure**

1. The HOMeostasis model Assessment of Insulin Resistance (HOMA-IR)
2. Quantitative Insulin Sensitivity Check Index (QUICKI)
3. Systolic BP
4. Diastolic BP

Primary outcomes measured at baseline and 12 weeks (at the end of this study).

**Secondary outcome measures**

1. Lipids
2. Serum trace minerals (magnesium, calcium, and phosphorus)

Secondary outcomes measured at baseline and 12 weeks (at the end of this study).

**Overall study start date**

04/01/2006

**Completion date**

08/01/2006

## **Eligibility**

**Key inclusion criteria**

1. Aged 30 - 60 years
2. Body mass index greater than or equal to 23 kg/m<sup>2</sup>
3. Have not taken any supplements or medications, including anti-diabetic drugs, anti-hypertensive drugs, steroids, or hormonal products, during the previous 4 weeks

**Participant type(s)**

Patient

**Age group**

Adult

**Sex**

Both

**Target number of participants**

156

**Total final enrolment**

155

**Key exclusion criteria**

1. Pregnant women
2. Those suffering from chronic illnesses, including:
  - 2.1. Chronic liver and renal diseases
  - 2.2. Severe bradycardia
  - 2.3. Myasthenia gravis
  - 2.4. Hypermagnesemia

**Date of first enrolment**

04/01/2006

**Date of final enrolment**

08/01/2006

## Locations

**Countries of recruitment**

Korea, South

**Study participating centre****Family Medicine**

Busan

Korea, South

602-739

## Sponsor information

**Organisation**

TEI (Trace Elements Incorporated) Korea (South Korea)

**Sponsor details**

Cambridge B/D 2F

1461-15

Seocho-dong

Seocho-gu

Seoul

Korea, South

137-070

**Sponsor type**

Industry

**Website**

<http://www.teikorea.com>

ROR

<https://ror.org/00zhe2a05>

## Funder(s)

### Funder type

Industry

### Funder Name

TEI (Trace Elements Incorporated) Korea (South Korea)

## Results and Publications

### Publication and dissemination plan

Not provided at time of registration

### Intention to publish date

### Individual participant data (IPD) sharing plan

### IPD sharing plan summary

Not provided at time of registration

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>		01/12/2009	08/04/2021	Yes	No