### Background
Rheumatoid arthritis (RA) is a relatively common chronic inflammatory arthropathy of unknown etiology. Trace elements have a great role in a number of biological processes.

### Objectives
To assess serum elements boron (B), Selenium (Se), copper (Cu), zinc (Zn), and magnesium (Mg) in patients with RA; and to evaluate their relationship with patient characteristics if present.

### Patients and Methods
A cross sectional study enrolled 107 RA patients diagnosed by rheumatologist according to the ACR 1987 revised criteria for the classification of RA with 214 healthy individuals matched in age and sex as a control group. RA disease-related data were collected like age, sex, rheumatoid factor (RF), disease duration, disease activity score index of 28 joints (DAS 28), functional class, disease progression stage, smoking history, body mass index and treatment history. Erythrocyte sedimentation rate (ESR), serum levels of B, Se, Zn, Cu and Mg were measured in both groups. Trace elements levels in serum were measured using a flame atomic absorption spectrophotometer.