



DOI: <https://doi.org/10.56936/18290825-2023.17.3-51>

**INFLAMMATORY AND STRESS OXIDATIVE IMPROVING
POTENTIAL OF CHROMIUM SUPPLEMENTATION:
PROTOCOL FOR A SYSTEMATIC REVIEW
AND META ANALYSIS OF RANDOMIZED CLINICAL TRIALS**

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Received 26.12.2022; accepted for printing 5.06.2023

ABSTRACT

In modern and machinery life, it has been established that inflammatory reactions and oxidative stress play an important role in the onset and progression of numerous common metabolic diseases. Environmental factors such as dietary factors are underlying these modern diseases.

In this systematic review and meta analysis, clinical randomized trials of effect of chromium supplementation on inflammatory and stress oxidative indices will be searched by the prespecified search strategy in PubMed, Scopus, International Scientific Indexing, Proquest, Cochrane, clinical trial.gov and Google Scholar. Quality (risk of bias) of relevant articles will be assessed by Cochrane software. Design, disease type, sample size, supplement dose, study duration, before and after intervention mean \pm standard deviation of outcomes (inflammatory cytokines and stress oxidative mediators) will be extracted from included studies. The overall effect size of intervention will be expressed as weighted mean differences in the Random Effect Model. Subgroup analyses will be based on the dosage and duration of chromium supplementation, health condition of the participants, study location and sample size. The comprehensive meta-analysis software will be used for data analysis. P values <0.05 will be considered as statistically significant.

KEYWORDS: chromium, inflammation, stress oxidative, systematic review, meta analysis, protocol.

INTRODUCTION

Inflammation, immune system reaction to maintain the body function against hemostatic imbalance, is often associated with acute inflammatory and increase of inflammation-mediated cytokines due to infection or tissue damage

[Chung H et al., 2009]. Low-grade, chronic inflammation is less well known. While this inflammation, evidence suggests that plays a major role in the development of many current non-communicable diseases, including cardiovascular dis-

CITE THIS ARTICLE AS:

Ebrahimzadeh Kour B., Jambarsang S., Karimpour F., Hosseini S.E., Ramazani V., Mozaffari-Khosravi H. (2023). Inflammatory And Stress Oxidative Improving Potential Of Chromium Supplementation: Protocol For A Systematic Review And Meta Analysis Of Randomized Clinical Trials; The New Armenian Medical Journal, vol.17(3), p 51-58; <https://doi.org/10.56936/18290825-2023.17.3-51>

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