

INPLASY PROTOCOL

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Review Stage at time of this submission: Piloting of the study selection process.

Conflicts of interest:

None declared.

INTRODUCTION

Review question / Objective: The incidence of osteoporosis is increasing. In many studies, vitamin K and Ca are considered to

The combination effect of vitamin K and calcium in adults bone quality: a meta-analysis of randomized controlled trials

Hu, LY¹; Ji, JD²; Li, D³; Meng, J⁴; Yu, B⁵.

Review question / Objective: The incidence of osteoporosis is increasing. In many studies, vitamin K and Ca are considered to be related to bone quality, but previous studies have not reached a consistent conclusion on the effects of vitamin K and calcium on adult bone quality.

Condition being studied: The combination effect of vitamin K and calcium in adults bone quality.

Information sources: Article searching was conducted by two investigators independently. Relevant articles were identified through the search on PubMed, Embase, Web of Science and the Cochrane Library databases.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 March 2021 and was last updated on 20 April 2021 (registration number INPLASY202130058).

be related to bone quality, but previous studies have not reached a consistent conclusion on the effects of vitamin K and calcium on adult bone quality.

Condition being studied: The combination effect of vitamin K and calcium in adults bone quality.

METHODS

Search strategy: 1. (((Postmenopausal [Title/Abstract] OR (BMD[Title/Abstract])) OR (bone[Title/Abstract])) OR (osteoporosis[Title/Abstract]) 2. ((Vitamin K[Title/Abstract] OR (menatetrenone[Title/Abstract])) OR (menaquinone[Title/Abstract])) OR (phylloquinone[Title/Abstract]) 3. (randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR placebo[tiab] OR clinical trials as topic[mesh:noexp] OR randomly[tiab] OR trial[ti]) NOT (animals [mh] NOT (humans [mh] AND animals[mh])) 4. 1 AND 2 5. 4 AND 3.

Intervention: Combined of Vitamin K and Calcium.

Comparator: Only use Vitamin K or Calcium or Placebo.

Study designs to be included: Randomized controlled trials.

Eligibility criteria: (1) Adults (2) A randomized controlled trial ((RCT),) was conducted to compare the efficacy of vitamin K and calcium in combination with vitamin K or calcium in the control group (or even the placebo group). Intervention: intake of vitamin K and Ca supplements for at least half a year (4) provided the mean and standard deviation of changes in bone mineral density and baseline (mg/cm²) or the mean and standard deviation of the percentage of changes in UcOC and baseline.

Information sources: Article searching was conducted by two investigators independently. Relevant articles were identified through the search on PubMed, Embase, Web of Science and the Cochrane Library databases.

Main outcome(s): Bone mineral density and underhydroxylated osteocalcin.

Quality assessment / Risk of bias analysis: We used the Newcastle-Ottawa Scale to assess the qualities of all included studies

Strategy of data synthesis: It hasn't started yet.

Subgroup analysis: Vitamin type ,dosage and follow-up time.

Sensitivity analysis: It hasn't started yet.

Country(ies) involved: China.

Keywords: Bone mineral density; postmenopausal; vitamin K; calcium; randomized controlled trials; meta-analysis.

Contributions of each author:

Author 1 - Liyou Hu.

Author 2 - JinDou Ji.

Author 3 - Dong Li.

Author 4 - Jing Meng.

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