

# INPLASY

## Daily versus alternate day dosing of oral iron supplementation in treatment of iron deficiency anaemia: A systematic review and meta-analysis

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### ADMINISTRATIVE INFORMATION

**Support** - None.

**Review Stage at time of this submission** - Data analysis.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY2023100046

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 October 2023 and was last updated on 12 October 2023.

### INTRODUCTION

**Review question / Objective** Participants: Adult patients with iron deficiency anaemia. Intervention: Alternate day oral iron supplementation. Control: Daily oral iron supplementation. Outcome: Primary outcome measures the change in haemoglobin and ferritin with secondary outcome of incidence of gastrointestinal side effects.

**Rationale** Iron deficiency anaemia remains the most common cause of anaemia worldwide. Daily supplementation is currently the most common regimen; however, this can be associated with gastrointestinal side effects.

We performed a systematic review and meta-analysis aiming to assess whether the efficacy of alternate daily dosing of iron is comparable to daily dosing in the treatment of iron deficiency anaemia.

**Condition being studied** Iron deficiency anaemia.

### METHODS

**Search strategy** Electronic search was performed using Medline, EMBASE, and Cochrane Central Register of controlled trials database from inception to 1st June 2023 using the following MeSH terms or free text: “oral iron”, “oral ferrous”, “dose”, “hepcidin”.

**Participant or population** Adult patients age 18 or more, non-pregnant.

**Intervention** Alternate daily oral iron supplementation.

**Comparator** Daily oral iron supplementation.

**Study designs to be included** Randomised control trials.

**Eligibility criteria** The exclusion criteria were as follows: Studies on pregnant women, on-adult studies, animal studies, non-english studies.

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**Information sources** Electronic databases.

**Main outcome(s)** Mean change in haemoglobin, mean change in ferritin, risk ratio of gastrointestinal side effects.

**Quality assessment / Risk of bias analysis** Cochrane risk of bias analysis.

**Strategy of data synthesis** A random effects model, as described by DerSimonian and Laird, was used to calculate pooled mean difference and risk ratios. Forest plots were used to display the outcomes. I<sup>2</sup>, Tau<sup>2</sup> statistics and p-value were used to assess the heterogeneity.

**Subgroup analysis** Subgroup analysis looking at follow up time greater than 8 weeks compared to follow up time of less than 8 weeks was performed.

**Sensitivity analysis** Test of chi with 95% confidence interval.

**Country(ies) involved** Australia.

**Keywords** Iron deficiency anaemia; alternate daily; oral iron.

#### **Contributions of each author**

Author 1 - Ashley Gaw - Author 1 did data collection, study quality assessment, and drafted manuscript.

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Author 2 - Jin Tan - This author assisted in literature search and article screening, editing manuscript.

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