

Optimizing iron absorption: Superiority of alternate day dosing

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Dear Madam, Pakistan is one of the leading countries in iron deficiency and iron deficiency anaemia, ranking 2nd in South Asia, involving 53% of children under the age of 5 years along with 41.7% of women of reproductive age.¹ Last assessed by the National Nutritional Survey of 2011, Pakistan had suffered a total economic loss, over 10 year period of 12.25 billion dollars which makes it essential to focus on controlling risk factors to prevent this prevailing issue.² This can be done by the use of iron supplements. In a randomised double-blind placebo-controlled study, patients receiving iron supplementation on alternative days for 6 months as opposed to consecutive day-intake for 90 followed by a placebo for a subsequent 90 days were studied. While the baseline variables showed little difference amongst the two groups, after 6 months the prevalence of iron deficiency was 11.4% in the consecutive day group versus 3% in the alternative day group (P= 0.049.) Despite the variation in serum ferritin at days 46 and 93, 4 months post treatment, median serum ferritin remained higher in the alternate day group as compared to the consecutive day group(P=0.03.). At equal iron doses, in consecutive and alternate day groups, the latter experienced fewer gastrointestinal adverse effects. Serum hepcidin was consistently higher in the consecutive-day group at various points (P < 0.001), with a significant difference at the end of treatment. This can be attributed to the upregulation of serum hepcidin by acute intake of iron doses and the resulting increase in liver stores over the course of 3 months.³ This corroborated previous research that dosing oral iron

intake in this method held superiority in efficacy and in lowering iron deficiency amongst individuals. The general population should be aware of the correct use of iron supplements to ensure maximum efficacy as awareness has been found to significantly impact adherence.⁴ Studies in Pakistan have not investigated this aspect of iron supplementation and it is essential that such aspects be explored in a third world country like Pakistan as alternate day iron supplementation would prove to be more economical for patients. Also, reduced Gastrointestinal side effects would improve patient compliance leading to more favourable results. Moreover, physicians should also be made aware to ensure proper counselling of patients leading to favourable outcomes.

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