Canadian Agency for Drugs and Technologies in Health

RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

TITLE: Liquid and Water Soluble Oral Iron Products: Tooth Staining

DATE: 20 June 2016

RESEARCH QUESTIONS

1. What is the clinical evidence regarding the occurrence of tooth staining in patients taking liquid ferrous sulfate?

2. What is the clinical evidence regarding the occurrence of tooth staining or discoloration in patients taking liquid or water soluble polysaccharide-iron complex?

KEY FINDINGS

No relevant literature was identified regarding the occurrence of tooth staining in patients taking liquid ferrous sulfate, or liquid or water soluble polysaccharide-iron complex.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2006 and June 15, 2016. Internet links were provided, where available.

SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

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Table 1: Selection Criteria	
Population	Patients of any age requiring oral iron solution
Intervention	Q1: Concentrated ferrous sulfate drops or liquid (e.g., Fer-In-Sol syrup or liquid, Pms-Ferrous Sulfate Solution or Drops, Dom-Ferrous Sulfate Drops) Q2: Polysaccharide-iron complex (PIC) liquid or water soluble powder (e.g., FeraMAX)
Comparator	No comparator
Outcomes	Tooth staining or discoloration; Other dental outcomes
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies

RESULTS

No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or non-randomized studies were identified regarding the occurrence of tooth staining in patients taking liquid ferrous sulfate, or liquid or water soluble polysaccharide-iron complex.

References of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

No relevant literature was identified regarding the occurrence of tooth staining in patients taking liquid ferrous sulfate, or liquid or water soluble polysaccharide-iron complex; therefore, no summary can be provided.

REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials
No literature identified.

Non-Randomized Studies
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Previous CADTH Reports

1. Liquid or water soluble polysaccharide-iron complex versus ferrous sulfate for pediatric populations: clinical and cost-effectiveness [Internet]. Ottawa: CADTH; 2016 May [cited 2016 Jun 20]. (Rapid response report: summary of abstracts). Available from: https://www.cadth.ca/sites/default/files/pdf/htis/may-2016/RB0988%20Oral%20Iron%20Pediatrics%20Final.pdf

Randomized Controlled Trials – Alternate Forms of Iron Supplements

2. Jaber L, Rigler S, Taya A, Tebi F, Baloum M, Yaniv I, et al. Iron polymaltose versus ferrous gluconate in the prevention of iron deficiency anemia of infancy. J Pediatr Hematol Oncol. 2010 Nov;32(8):585-8.
PubMed: PM20930652

Non-Randomized Studies – Type of Iron Supplement Not Specified

3. Garcia Martin JM, Gonzalez GM, Seoane LJ, Llorente PS, Diaz Martin JJ, Garcia-Pola MJ. Prevalence of black stain and associated risk factors in preschool Spanish children. Pediatr Int. 2013 Jun;55(3):355-9.
PubMed: PM23414217

Laboratory Studies

4. Malek AB, Ghasemi A, Mirani A, Abdolazimi Z, Akbarzade BA, Kharazifard MJ. Effect of ingested liquids on color change of composite resins. J Dent (Tehran) [Internet]. 2015 Aug [cited 2016 Jun 20];12(8):577-84. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4847163
PubMed: PM27123017

5. Pani SC, Alenazi FM, Alotain AM, Alanazi HD, Alasmari AS. Extrinsic tooth staining potential of high dose and sustained release iron syrups on primary teeth. BMC Oral Health [Internet]. 2015 [cited 2016 Jun 20];15:90. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4522998
PubMed: PM26238197

6. Mehran M, Mohammadi Bassir M, Jafari S. Effect of two kinds of iron drops on the discoloration, atomic absorption and structural changes of primary teeth enamel. J Dent Med [Internet];2009 [cited 2016 Jun 20];21(4):1-10. Available from: http://jdm.tums.ac.ir/files/site1/user_files_de744d/tums-A-10-25-167-68133a2.pdf
Note: full-text in Persian