

UK NATIONAL SCREENING COMMITTEE

Screening for Iron Deficiency Anaemia in Children Under 5 Years of Age

6 June 2013

Aim

1. This paper provides background on the agenda item addressing screening for iron deficiency anaemia in children under 5 years of age.

Background and Current Policy

2. The purpose of screening for iron deficiency anaemia would be to identify a cohort of asymptomatic children who would benefit from iron supplementation as a preventive measure against the development of psychomotor and cognitive abnormalities.

3. The current policy is that screening should not be offered.

4. The UK National Screening Committee (UK NSC) last considered whether to review the evidence on screening for iron deficiency anaemia in 2006. No review document was produced but the policy of not screening was reaffirmed and along with the advice that the emphasis should be on primary prevention and good nutritional advice.

5. In the same year the US Preventive Services Task Force reviewed the case for screening in children between 6 – 12 months of age. This concluded that screening was not recommended within this age group.

6. The reasons for this centred on:

7. The natural history – in many cases, particularly in children under 12 months, iron deficiency and iron deficiency anaemia resolves spontaneously. Furthermore a causal relationship between iron deficiency anaemia and developmental abnormalities is difficult to establish.

8. The test – the specificity of serum haemoglobin assessment or haematocrit was a concern as there are many causes of anaemia other than iron deficiency. The sensitivity and specificity of alternative methods, eg serum ferritin, transferrin saturation, had been insufficiently studied.

9. The treatment – there was conflicting evidence that iron supplementation leads to improved outcomes.

Current Review Process

10. Bazian were asked to assess the literature published between January 2000 and October 2011. The main focus of the review was on literature published since 2006 and the resulting review is attached.

11. The review was considered by the Fetal, Maternal and Child Health Co-ordinating Group in July 2012. It was then circulated to the Royal College of Paediatrics and Child Health (RCPCH) and the Royal College of General Practitioners (RCGP) for comments. Their comments are attached at Annex A.

12. A three month consultation was then hosted on the UK NSC website and this closed on 7 February 2013.

13. The responses from the RCGP and RCPCH did not have any significant issues with the content or conclusions of the review. However both were concerned that the review's research suggestions should be addressed. No further responses were received from the three month consultation.

Recommendation

14. The UK NSC is asked to agree the policy position on screening iron deficiency in children under 5 years of age for as follows:-

Screening for iron deficiency in children under 5 years of age should not be offered.

A causal relationship between iron deficiency anaemia and adverse developmental outcomes has not been demonstrated. A non invasive test suitable for population screening has not been identified and the reported effect of iron supplementation on complications associated with iron deficiency in asymptomatic children is conflicting.

In the absence of screening the emphasis, in terms of prevention, should continue to be placed on primary prevention via good dietary advice.

15. The UK NSC is asked to agree that the policy should be reviewed in three years' time unless there is significant new peer reviewed evidence in the meantime.

Consultation Responses

Organisation:	Royal College of Paediatrics and Child Health		
Name:	With thanks to: • Dr Peter Powell – Consultant Paediatrician (response on behalf of General Paediatrics CSAC) • Dr Alan Stanton – Consultant Community Paediatrician • Dr Sarah Laraway – Consultant Paediatrician	Email address:	
Section and / or page number	Text or issue to which comments relate	Comment	
		<i>Please use a new row for each comment and add extra rows as required.</i>	
General	General	The review is comprehensive and carefully done	
General	General	It would have been useful if the research focused on eliciting the relative importance of comorbidities associated with IDA had been included in this review	
General	General	Whilst agreeing with the conclusions, we must admit to reading the report with a sense of frustration. Whilst we may lack precise epidemiological data there is no doubt that iron deficiency is common, and it cannot be right that we are still asking such basic questions about the effect which it may have on development, and how best to intervene. We can only suggest that the research suggestions at the end of the review be presented a little more forcefully, so that action is taken. We would be most disappointed to read another review in 5 years and discover that we are still uncertain as to how to proceed, whilst another generation of children (particularly deprived children) may possibly have grown up avoidably failing to meet their full potential.	
General	General	We agree that there are limitations of the available tests in	

		terms of determining the optimal iron level at various ages, and the test is invasive (blood). There seems to remain a lack of clarity on the optimal treatment objectives, timing of treatment and type of treatment. There is a particular difficulty with much of the available evidence due to lack of appropriate control groups. There is a lack of information about current practice and its effectiveness/ uptake in the UK
General	General	We would be interested in more information about identification of high risk groups and whether UK intervention is shown to have an impact on IDA/longer term outcomes (especially intervention such as information on iron rich foods, follow on formula rather than cow's milk, intensive health visitor support in those at risk). We felt that the research objectives identified raised extremely useful points and need to be explored further.

Organisation:	Royal College of General Practitioners		
Name:	Matt Hoghton & Vimal Tiwari	Email address:	
Section and / or page number	Text or issue to which comments relate	Comment	
		<i>Please use a new row for each comment and add extra rows as required.</i>	
General	Whole document	The RCGP Clinical Innovation and Research Centre CIRC welcomes the opportunity to comment on the UK National Screening committee Screening for Iron Deficiency Anaemia (IDA) in children under 5 years of age 2012. This evaluation was carried out against 22 criterion and systematic and evidence based. It was disappointing to see the evidence of lack of research in this area particularly • No UK studies looking at the associations between IDA and developmental outcomes published since 2006 were identified • No publications regarding the distribution of test values in the UK population or cut-off values for defining IDA in the UK published since 2006 were identified in the update search. • No UK publications or guidelines were found on an agreed policy on the further diagnostic investigation of individuals with a positive test result and on the choices available to those individuals • No publications relevant were found to criterion- there should be agreed evidence based policies covering which individuals should be offered treatment and the appropriate treatment to be offered The RCGP CIRC agrees with the reports conclusion evidence	

		update highlights areas where further research is required: • The condition. Further studies are required to support a causal link between IDA and the adverse effects it is associated with, for example poor neurocognitive outcomes. The prevalence of IDA in the UK needs to be established. • Prevention. The measures that are recommended to prevent IDA in this age group and their uptake need to be evaluated. Qualitative research into the acceptability, barriers and facilitators to iron supplementation in infancy and childhood could be performed. • The test. Further development of tests suitable for screening is required. The diagnostic accuracy of the test needs to be determined in populations similar to the UK population. The acceptability of the test to the population should be ascertained. • Treatment. Although there is some conflicting evidence for improvement of adverse outcomes associated with IDA with treatment, further studies are required to establish whether treatment of IDA identified by screening does improves outcomes, and whether early treatment is better than late treatment. • Screening. RCTs demonstrating that screening leads to improves outcomes need to be performed. The best age to screen for IDA also needs to be determined. The RCGP has concerns that this area of community paediatric research needs to be considered as priority by the National Institute of Research NIHR . The NIHR Clinical Research network is currently undergoing a reorganisation into a simplified 15 geographically based Local clinical Research
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		networks. This research could be categorised under the proposed theme of “Reproductive and Child Health and Genertics”. The RCGP has concerns that research focused on secondary care may take precedence over community based community based paediatrics. The RCGP CIRC recommends this area revisited in three years given the rising birthrate and incidence of child poverty in the UK and that fact of the birthrate rising at a greater rate in the poorest families.
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