

LETTERS ♦ CORRESPONDANCE

Treating anemia with iron-fortified formula

I am writing in response to the article in the April issue of *Canadian Family Physician*, titled "Prevalence of anemia in First Nations children of northwestern Ontario," by Whalen, Caulfield, and Harris.¹

The authors have taken an important first step in identifying increased prevalence of iron-deficiency anemia in the First Nations population of the Sioux Lookout Zone. However, they do not offer any solution to the problem. Moffatt² demonstrated that iron-deficiency anemia causes developmental delays and Lozoff³ showed that developmental delays might not be reversed even after the anemia is corrected. Obviously, an effective prevention program is desirable. We believe that such a program exists and should be implemented in communities like those described by Whalen and colleagues.

After identifying some cases of iron-deficiency anemia in the First Nations community of Bella Bella in British Columbia, we conducted a before-after prevalence survey studying the effects of a public health intervention. We presented our findings at the Tenth International Congress on Circumpolar Health in Anchorage, Alaska, in May 1996, and the results were reported in the August 10 issue of *Lancet*.⁴ Our complete research will appear in an upcoming supplement to *Arctic Medical Research*.⁵

We screened one cohort of infants, born between January 1993 and August 1994, for iron-deficiency anemia. The infants were between 6 and 24 months old. We found 52% of the children had anemia, with hemoglobin levels below 100 g/L. The average hemoglobin level was 98.9 g/L



(±19.2 g/L). Subsequently, we implemented an infant nutrition program to educate parents and encourage use of iron-fortified formula in non-breastfed infants. All mothers were strongly encouraged to breastfeed, but many women in this community chose not to. Similar to communities in the Sioux Lookout Zone, our community is iso-

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lated and, as a result, the cost of formula, like that of other groceries, is considerably higher than it is in the cities. So we sold iron-fortified formula at a subsidized rate to reduce expenses for mothers in the program. We screened a second cohort of infants, born between September 1994 and September 1995, for iron-deficiency anemia. Only 4.2% of these infants had hemoglobin levels below 100 g/L. This second group had an average hemoglobin level of 116.6 g/L (±11.6 g/L).

Basically, we followed recommendations of the Canadian Paediatric Society by encouraging routine screening of high-risk infants at 9 months and by starting non-breastfed infants on iron-fortified formula at birth.⁶ Since that program, the Band Council has taken over subsidizing the iron-fortified formula to community members. In addition, increased awareness of community nutrition issues has led to hiring a perinatal nutrition worker and, interestingly, increased the prevalence of breastfeeding.

We encourage similar approaches to infant nutrition in all First Nations communities in Canada where prevalence of iron-deficiency anemia is high.

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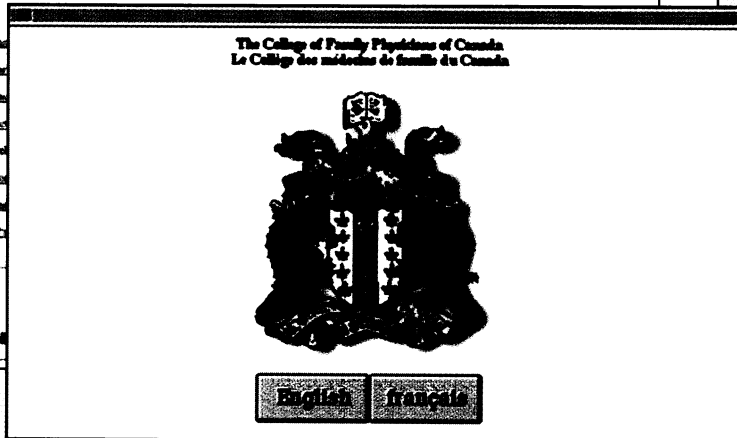
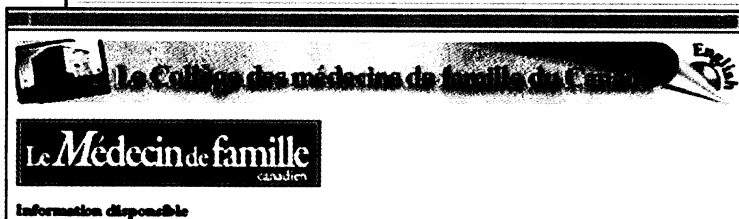
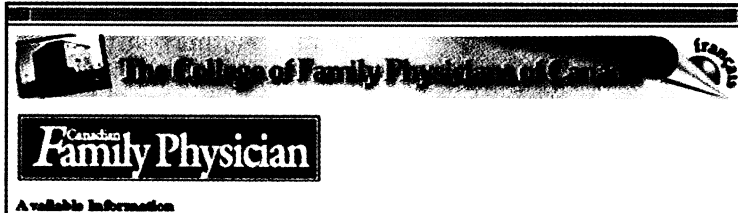
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Response

We thank Ms Rauliuk and Dr Sawchuk for their interest in our recent paper.¹ We share their concern about potential developmental delays associated with anemia, and look forward to reading about their efforts in developing public health programs to prevent this problem in isolated First Nations populations.

We are concerned, however, about interventions advocating the use of iron-fortified formulas as the sole approach for preventing anemia during infancy, especially when the etiology of anemia in First Nations populations is not yet known. This might be a simple solution in Bella Bella, BC, where 75% of mothers choose not to breastfeed their infants at all. In contrast, Ojibway Cree mothers of the Sioux Lookout Zone invariably leave the hospital breastfeeding, and many continue to breastfeed throughout their infants' first year of life. For such populations, iron-fortified formula is at best ineffective if it reaches only a fraction of those at risk and at worst harmful if it ultimately undermines breastfeeding practices.

An alternative approach is to encourage use of iron-fortified complementary foods. These foods can be recommended universally, will not undermine breastfeeding practices, are cheaper than formula, might be affordable for First Nations families, and require less subsidy from Band Councils.

— Stewart B. Harris, MD, MPH, CCFP;
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