Impact of maternal anaemia in pregnancy on childhood anaemia discovered

June 18 2020

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A study investigating the impact of maternal anemia in pregnancy on infant anemia has found it to be a more significant risk factor than being born premature or low birth weight (LBW).

The study is the first to identify the association of maternal anemia with childhood anemia in Aboriginal women and their children. This study, if

supported by findings from other regions, has public health implications for reviewing practice and policy guidelines.

Led by Menzies School of Health Research (Menzies), the study linked maternal and child data from 170 mother/child dyads in three remote Katherine East Aboriginal communities in the Northern Territory (NT) to provide a longitudinal view of each child for the first 1000 days from conception to two years of age.

Working in collaboration with Menzies, lead author and medical registrar at Royal Darwin Hospital, Dr. Martin Hansen said the study found a high prevalence of maternal anemia in pregnancy in the communities and a strong correlation between maternal hemoglobin in the third trimester of pregnancy and an infant's hemoglobin at age six months.

"Maternal anemia in pregnancy, which has considerable adverse outcomes for both mother and infant, is most commonly linked to iron deficiency. We found a prevalence of 62 percent of maternal anemia in pregnancy in these communities which is alarmingly high," Dr. Hansen said.

"We also found that the odds of a child developing anemia at age six months was four folds greater if their mother had anemia in the third trimester of pregnancy compared with those born to non-anemic mothers. The odds substantially increased if maternal anemia in third trimester was not treated. In addition, the study found maternal anemia in pregnancy was associated with increased odds of childhood anemia at 12 and 24 months of age. Our findings are important and highlight the need for a renewed focus on implementing and reporting anemia screening, prevention and treatment in pregnancy."

Co-author and Menzies principal investigator, Dr. Thérèse Kearns said

that this study identified two significant findings: An unacceptably high prevalence of maternal anemia in pregnancy and that maternal anemia in pregnancy is associated with infant anemia which has not previously been considered as a risk factor contributing to the high incidence and prevalence of anemia in NT Aboriginal and Torres Strait Islander children.

Dr. Kearns highlighted the importance of considering maternal anemia in pregnancy in best practice guidelines for iron supplementation to pregnant women and infants.

"Iron supplementation is effective in preventing iron deficiency anemia but is not currently recommended as a routine supplement for NT Aboriginal and Torres Strait Islander women during pregnancy or their infants," Dr. Kearns said. "Current policy and best practice guidelines for children focus exclusively on LBW and infants born premature in their identification of infants at risk. Our study indicates that the current practice of administering prophylactic iron supplementation at one-month of age only to children who are born with a low birth weight or premature would be of greater benefit if expanded to include children born to anemic mothers."

The study, "Maternal Anemia in Pregnancy: A Significantly Greater Risk Factor for Anemia in Australian Aboriginal Children than Low Birth Weight or Prematurity," was recently published in the *Maternal and Child Health Journal*.

More information: Martin Hansen et al. Maternal Anemia in Pregnancy: A Significantly Greater Risk Factor for Anemia in Australian Aboriginal Children than Low Birth Weight or Prematurity, *Maternal and Child Health Journal* (2020). DOI: 10.1007/s10995-020-02913-7

Provided by Menzies School of Health Research