Editorial

Recounting iron-deficiency anemia to pregnant women and adolescents: a cause for concern

Editorial

Volume 4 Issue 2 - 2016

Md. Mohsan Khudri
School of Business, Uttara University, Bangladesh

Correspondence: Mohsan Khudri, School of Business, Uttara University, Uttara, Dhaka-1230, Bangladesh, Email mkhudri@isrt.ac.bd

Received: July 09, 2016 | **Published:** July 25, 2016

Around 2 billion people worldwide are suffering from Iron deficiency which is one of the most common nutrient deficiencies. It is also the leading cause of anemia,[1] an omnipresent blood disorder problem, which contributes to disability and death. Anemia is defined as insufficient hemoglobin or red blood cells for a given age and sex, and can only be diagnosed by taking a small sample of blood. In developed areas of the world, only about 8% of the population has anemia, but in developing regions, the percentage of anemia averages 36%.[2] According to the World Health Organization (WHO), the leading cause of iron deficiency is dietary inadequacy. In women of reproductive age, menstrual losses also contribute considerably to iron deficiency. In developing countries, such as Bangladesh, parasitic infections such as malaria and hookworm also contribute to iron deficiency.[1] In addendum, deficiencies of other micronutrients, including folate and vitamins B12, B6, and A also contribute to anemia.[1,3] Iron deficiency and anemia impede normal human functions in all age groups, reducing work performance.[4] Anemia can also result in numerous morbidities including miscarriage, preterm delivery, placental abruption and lower birth weight.[3,5] Impaired immune responses, gastrointestinal abnormalities, changes in the hair and nails, impaired thermogenesis, altered thyroid metabolism, and changes in catecholamine turnover are also the consequences of maternal iron deficiency.[2]

Anemia in pregnant women and adolescent girls has serious health implications. It is related to a higher risk of prenatal and maternal mortality[6-8] since it causes intrauterine growth retardation and preterm delivery. Adolescent girls' physical work capacity and reproductive physiology are affected by Anemia.[9] According to a World Health Organization (WHO) report,[10] the global prevalence of anemia among pregnant women is 55.9%. According to the limited number of studies from India, the prevalence of anemia in adolescent girls is also fairly high.[11,12] Anemia results from both nutrition-related causes and inflammatory or infectious diseases. The prevalence of anemia in Bangladesh among non-pregnant, ever-married women was 41.3 %.[13] Adolescent girls experiencing heavy blood loss during menstruation are especially at particularly high risk of developing iron deficiency and anemia afterwards. Prevention of iron deficiency is essential since it is generally not outwardly apparent and affects fundamental physiological processes badly. In its most advanced stage, when iron reserves have been depleted, anemia develops. Much emphasis has been placed on the negative and irreversible developmental effects of iron deficiency during infancy and childhood. However, the negative effects of iron deficiency on cognitive performance may not be limited to just younger ages, but continue through adolescence. Adolescent children in the United States with iron deficiency had twice the risk of scoring below average in math than did children with adequate iron status.[14] Thus, even before anemia develops, negative effects of iron deficiency on cognitive performance in adolescents are evident.

Iron status at the beginning of adolescence may be important for ensuring adequate growth during this period, because iron deficiency can decrease appetite, and thus food and energy intake. Studies in which iron supplements were given to anemic adolescent children, showed an increase in weight and height gain among supplemented children, particularly during the earlier part of adolescence (10-14 years) in comparison to those children not receiving iron supplements.[15,16] Children receiving iron supplements reported greater appetite and had greater energy intake, than those not receiving supplements.

The purpose of this editorial is to define the anemia and mention its causes and effects on the basis of empirical evidences linking the potential risk factors of anemia. I suggest taking few measures for dealing with this problem more successfully. Firstly, the causal factors creating functional deficiencies in human body should be identified. Secondly, the magnitude of its effect on significant public health related issues should be estimated. It should be followed by measuring the prevalence of causal factors. Finally, effective ways should be bespoken to diminish the causal factors or to disrupt its association with adverse health consequences.

Acknowledgement

None.

Conflict of interest

None.

Reference

1. World Health Organization. Iron Deficiency Anemia Assessment, Prevention and Control: A guide for programme managers: World Health Organization. 2001.
2. Crichton RR. Iron. In: Stipanuk MH, Editor. Biochemical, physiological, & molecular aspects of human nutrition. St Louis, Missouri: Saunders Elsevierp: 2006;1001–1042.
3. Ronnenberg AG, Wood RJ, Wang X, et al. Preconception hemoglobin and ferritin concentrations are associated with pregnancy outcome in a prospective cohort of Chinese women. *The Journal of Nutrition.* 2004;134(10):2586–2591.
4. Haas JD, Brownlie T. Iron deficiency and reduced work capacity: a critical review of the research to determine a causal relationship. *J Nutr.* 2001;131(2S–2):676S–690S.
5. Allen LH. Anemia and iron deficiency: Effects on pregnancy outcome. *Am J Clin Nutr.* 2000;71(Suppl 5):1280–1284.
6. Lee HS, Kim MS, Kim MH, et al. Iron status and its association with pregnancy outcome in Korean pregnant women. *Eur J Clin Nutr.* 2006;60(9):1130–1135.

7. Mulayim B, Celik NY, Yanik FF. Helicobacter pylori infection detected by 14C-urea breath test is associated with iron deficiency anemia in pregnant women. *J Obstet Gynaecol Res.* 2008;34(6):980–985.
8. Brabin BJ, Hakimi M, Pelletier D. An analysis of anemia and pregnancy related maternal mortality. *J Nutr.* 2001;131(2S–2):604S–614S.
9. Seshadri S. Nutritional anaemia in South Asia. In: Gillespie SK, Editor. Malnutrition in South Asia: A regional profile. UNICEF Regional Office for South Asia. 1997;75–124.
10. World Health Organization. The prevalence of anaemia in women. WHO/MCH/MSM/92.2. Geneva: WHO. 1992.
11. Kanani S, Ghanekar J. Anaemia and adolescent girls: A review of research evidence and intervention strategies. Department of Food and Nutrition, MS University of Baroda and UNICEF, India. 1997.
12. Vir SC. Iron deficiency anaemia control—a public health programme priority. *Proc Nutr Soc India.* 2000;47:45–73.
13. Kamruzzaman M, Rabbani MG, Saw A, et al. Differentials in the prevalence of anemia among non-pregnant, ever-married women in Bangladesh: multilevel logistic regression analysis of data from the 2011 Bangladesh Demographic and Health Survey. *BMC Women's Health*. 2015;15:54.
14. Halterman JS, Kaczorowski C, Aligne A, et al. Iron deficiency and cognitive achievement among school-aged children and adolescents in the United States. *Pediatrics.* 2001;107(6):1381–1386.
15. Lawless JW, Latham MC, Stephenson LS, et al. Iron supplementation improves appetite and growth in anemic Kenyan primary school children. *J Nutr.* 1994;124(5):645–654.
16. Kanani SJ, Poojara RH. Supplementation with iron and folic acid enhance growth in adolescent Indian girls. *J Nutr.* 2000;130(2S Suppl):452–455.

Citation: Khudri MM. Recounting iron-deficiency anemia to pregnant women and adolescents: a cause for concern. *Biom Biostat Int J.* 2016;4(2):91–92. DOI: 10.15406/bbij.2016.04.00094