Positive effect of large birth intervals on early childhood hemoglobin levels in Africa is limited to girls: Cross-sectional DHS study

Robel Afeworki
Nijmegen Medical Centre-Radboud University, Netherlands

Abstract

Short birth intervals are independently associated with increased risk of adverse maternal, perinatal, infant and child outcomes. Anemia in children, which is highly prevalent in Africa, is associated with an increased risk of morbidity and mortality. Birth spacing is advocated as a tool to reduce anemia in pre-school African children, but the role of gender differences and contextual factors has been neglected. The present study aims to determine to what extent the length of preceding birth interval influences the hemoglobin levels of African pre-school children in general, as well as for boys and girls separately and which contextual factors thereby play a crucial role. This cross-sectional study uses data from Demographic and Health Surveys (DHS) conducted between 2003 and 2011 in 20 African countries. Multivariate analyses were done to examine the relationship between length of preceding birth interval and child hemoglobin levels, adjusted for factors at the individual, household, community, district and country level. A positive linear relationship was observed between birth interval and the 49,260 included children's hemoglobin level, whereby age and sex of the child, hemoglobin level of the mother, household wealth, mother's education and urbanization of place of residence also showed positive associations. A longer birth interval has a modest positive effect on early childhood hemoglobin levels of girls, and this effect is strongest when their mothers are in their early twenties and have a high hemoglobin level. Remarkably, although the physiological iron requirement is higher for boys than girls, birth spacing has little influence on hemoglobin levels of preschool boys. We speculate that the preference for male offspring in large parts of Africa significantly influences nutritional patterns of African preschool boys and girls and as such also determines the different effect of birth spacing. Finally, gender aspects should be considered in intervention programs that aim to improve anemia in Africa children.

Biography

Robel Afeworki has a Diploma (MSc) in Biomedical Sciences with specialization of Epidemiology and Infectious Diseases from Radboud University. He worked as a Research Assistant in Global Data Lab, Nijmegen Center for Economics and Department of Internal Medicine in Radboud University Medical Center. His research concentration focuses mainly in maternal and child health based on the evidence generated from massive Demographic and Health Surveys database which align to Millennium Development Goals.

robrix99@gmail.com