Medical Xpress

New report illustrates persistent global burden of anemia among high-risk populations

December 2 2013

Despite increasing efforts to diagnose and treat anemia worldwide, there remains a surprisingly large global burden of the disease, particularly among young children and women, according to a new report on trends in anemia between 1990 and 2010. The report was published online today in *Blood*, the Journal of the American Society of Hematology.

Anemia is a complex condition characterized by a low level of hemoglobin, the protein that binds to oxygen in the lungs and carries it to all parts of the body. A low level of hemoglobin leads to impaired delivery of oxygen to the body and causes symptoms including weakness, fatigue, and difficulty concentrating. Symptoms of anemia in children may include impaired mental or motor development.

Historical estimates on the global prevalence of anemia vary widely based on either inconsistent data or the incorrect assumption that anemia is always caused by iron deficiency. Disease prevalence is consistently higher in individuals of low socioeconomic status, those considered to be underweight, and females who have recently given birth. Some estimates suggest that as many as 50-80 percent of individuals in these high-risk populations may have some degree of anemia.

"While we know that anemia is highly prevalent, it has been difficult to quantify the true global burden of this disease without over-counting or duplicating occurrences based on the range of likely causes," said lead

study author Nicholas Kassebaum, MD, of the Institute for Health Metrics and Evaluation at the University of Washington in Seattle. "In addition, previous studies have been geographically limited and have lacked detail about the disease's severity or cause."

Seeking to create the first comprehensive audit of the global burden of anemia, Kassebaum and colleagues conducted an analysis of anemia data from a large global study (the Global Burden of Diseases, Injuries and Risk Factors Study) aiming to more accurately calculate the burden of disease worldwide. The team reviewed data on the 17 most common causes of anemia cases from 187 countries between 1990 and 2010 to calculate the total prevalence and disability burden rates (reported as years lived with disability, or YLD, which captures the average duration and relative severity of the disease). Anemia disease burden was defined based on hemoglobin deficiency using standard thresholds that varied by sex, age, and pregnancy status. As the analysis did not include all anemia-related comorbidities, the actual burden of disease associated with anemia may be higher.

Overall, the report found that while the global prevalence of anemia decreased between 1990 and 2010 (from 40.2% to 32.9%), the disease remains responsible for a significant burden on society, with an increase in global YLDs from 65.5 million to 68.4 million over the 20-year period. By comparison, this global disease burden is greater than burden associated with major depression (63.2 million YLDs), chronic respiratory diseases (49.3 million YLDs), and general injuries (47.2 million YLDs).

Though the overall prevalence of anemia decreased during the study period (from 40.2% in 1990 to 32.9% in 2010), the burden among children under age 5 actually increased. This age group accounted for more cases of anemia than any other age group and had the highest severity of disease in low- and middle-income regions. In addition to the

difference in prevalence and burden related to age, data gathered by investigators also indicate a widening gender gap in anemia burden over time. While prevalence decreased in both genders between 1990 and 2010, the changes were more pronounced for males, while female prevalence remained higher in most regions and age groups.

Data from the report also indicate stark differences in the burden of anemia throughout different parts of the world. Data indicate a reduction in anemia burden between 1990 and 2010, particularly in East, South, and Southeast Asia. Yet over the same time period, total anemia YLDs increased in other regions such as the lower income regions of Sub-Saharan Africa.

"While many advances have been made to combat anemia worldwide, these results demonstrate that this disease remains highly burdensome," said Dr. Kassebaum. "Further, our study confirms that young children and women continue to carry the greatest burden, underscoring a need for these groups to remain priorities for anemia control interventions. Our hope is that these findings help encourage the facilitation of new strategies to help begin to reduce this burden, particularly in these high-risk populations."

Provided by American Society of Hematology

Citation: New report illustrates persistent global burden of anemia among high-risk populations (2013, December 2) retrieved 4 May 2024 from https://medicalxpress.com/news/2013-12-persistent-global-burden-anemia-high-risk.html