Should We Revisit The Current Definition Of Anemia In Pregnancy?

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World Health Organization (WHO) defines anemia in pregnancy (AP) as Hb <11 g/dl during the first trimester [1,2]. Given that hemodilution occurs significantly during second trimester, WHO defines anemia in the second trimester as Hb <10.5 g/dl [2]. Defining anemia according to trimester, though reasonable, might carry some diagnostic difficulties. Indeed, hemodilution is mild in some women and very pronounced in some others. Moreover, hemodilution increases gradually from the 6th week gestation to its maximum around the 32nd week [3]. The definition of anemia changes brutally from first to second trimester, while hemodilution changes gradually. Consequently, some pregnant women might falsely be considered anemic, especially in the second trimester.

The WHO definition, although more secure, is not being used by all authors. Given that no study found significant maternal nor fetal risk when maternal Hb was ≥ 10 g/dl [3,4], AP is defined as Hb concentration <10 g/dl by many authors [58].

According to WHO definition, the prevalence of anemia in pregnancy varies between 15% and 67% worldwide, with one of the highest (30-65%) in sub-Saharan countries [6,9,10], and the lowest (15-25%) in developed countries [2]. This rates seem too high even in high resource countries where under nutrition is almost absent, perhaps because of inappropriate definition.

The average estimates for all-cause anemia attributable mortality (both direct and indirect) were 6.37%, 7.26% and 3.0% for Africa, Asia and Latin America in 2011, respectively [11]. Hence, despite the high prevalence of anemia in developing countries according to the WHO definition, only 3.0% to 7.3% are anemia attributable maternal deaths, showing that the threshold value for defining anemia in pregnancy is perhaps too high.

Studies showed that fetal and maternal adverse effects were more observed when the anemia was regularly <9 to 10 g/dl [5,8]. Hence, a definition of <10 g/dl seems more appropriate.

Revisiting the definition of anemia could show us the real prevalence worldwide and tell us in which countries more efforts should be carried out to reduce anemia prevalence.

References


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