The need for standard definitions in global data comparison: lessons from studying the prevalence of anaemia during pregnancy in Sri Lanka

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Despite continuous efforts to combat anaemia in pregnancy, many countries are still far from controlling this global health issue. Daru *et al* have reported that even in the past decade, the odds of death among pregnant women with severe anaemia were 2.36 compared with other pregnant women.¹ Though alarming, even these odds have been pointed out to be an underestimation of the actual magnitude of the problem calling for comprehensive strategies to address anaemia in pregnancy.² Exerting universal consensus on definitions for anaemia in pregnancy is of utmost importance as such strategies require correct quantification of the disease burden and its distribution.

With its focus on universal healthcare, Sri Lanka has been able to achieve good maternal care indicators both in care coverage as well as outcomes. However, the Global Health Observatory Data Repository has placed Sri Lanka as a country with poor performance with regard to maternal anaemia, with more than 100 countries performing better than Sri Lanka. In 2018, prevalence of anaemia among Sri Lankan pregnant women was reported as 29.1%, and 8 of its 25 districts reported that more than one-third of their pregnant population was anaemic.³

These prevalence data are compiled based on the National Guidelines for Maternal Care which recommends haemoglobin assessment at the booking visit and around 28 weeks of period of gestation (POG). In accordance with the previous WHO recommendations, the national pregnancy care programme uses a universal haemoglobin cut-off of 110 g/L to identify anaemia throughout the pregnancy period.⁴ However, the revised WHO guideline recommends using a lower haemoglobin cut-off of 105 g/L during the second trimester

Summary box

- ▶ Accommodating for the changes in plasma volume during pregnancy, new recommendations suggest that the haemoglobin threshold for defining anaemia during pregnancy should be adjusted for the period of gestation.
- ▶ Still, same threshold value is being used throughout the pregnancy in some countries leading to a great overestimation of anaemia prevalence in pregnant women in those regions.
- ▶ For an example, we observed that in Sri Lanka, two out of five women categorised as having anaemia in mid-pregnancy are not actually anaemic.
- ▶ At individual level, this may lead to unnecessary investigations, interventions and psychological disturbances in a large number of pregnant women.
- ▶ Heterogeneity in haemoglobin cut-off values used by countries to define anaemia may compromise the accuracy of global level disease burden comparisons, impacting the policy decisions based on them.
- ▶ National healthcare managers need to be vigilant on the global changes and the global data repositories and comparisons need additional steps in data curation in order to provide better estimates.

of pregnancy.^{5 6} Similar recommendations are being practised elsewhere in the world including the USA, UK and Australia.⁷⁻⁹

A recent large community-based pregnancy cohort study conducted in Sri Lanka (Rajarata Pregnancy Cohort) provided comprehensive data on the probable overestimation of anaemia in pregnancy due to the differences in the threshold values used.¹⁰ The study was conducted in Anuradhapura, a district where the reported prevalence of anaemia in pregnancy was almost 50%. According to the maternal health statistics of the district, the cohort had included 86% of its pregnant population registering for antenatal care from July to September 2019.¹¹ Among 1366

pregnant women with POG between 22 and 32 weeks, only 373 (27.3%) were identified as anaemic using the globally accepted threshold of 105 g/L. However, according to the information relayed to national pregnancy care programme, 676 (49.5%) pregnant women were anaemic, based on the current national recommendation (haemoglobin 110 g/L as threshold). This is a gross 78.7% inflation of prevalence estimate where anaemia prevalence has increased by 22.2 percentage points.

At individual level, this may lead to unnecessary investigations and psychological disturbances in a large number of pregnant women. At national level, the overestimation can cloud the success of effective preventive strategies, undermine the efforts and dedication of grass-root level healthcare providers leading to frustration and demotivation, and can unnecessarily exhaust the already limited human and physical resources. The accuracy of global rankings and classifications, and hence their usefulness as data for action at global level, is also at stake when countries have used different cut-offs to estimate anaemia prevalence. Thus, national healthcare managers need to be vigilant on global changes and the global data repositories and comparisons need additional steps in data curation in order to provide better estimates.

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