

CORRESPONDENCE



The challenges in gestational weight gain monitoring in low and middle income settings

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TO THE EDITOR:

We greatly appreciate the recent correspondence on our article and the accompanying editorial [1–3]. Monitoring Gestational Weight Gain (GWG) in various populations is a critical clinical need that has yet to be adequately addressed. The current paradigm for monitoring GWG at a clinical level is to use a chart to track whether a pregnant woman is gaining weight within the recommended range for GWG throughout pregnancy. The debate between use of prescriptive one-size-fits-all standards and reference charts for monitoring GWG and growth in general is far from settled.

While global standards may have practical public health advantages, we cannot ignore the evidence demonstrating their limitations. The foundational argument of prescriptive global standards is that when socioeconomic and medical constraints are met, ethnic differences in characteristics like fetal growth and gestational weight gain are negligible. While direct evidence on the applicability of global GWG standards to different populations is not yet tested, there is emerging evidence on use of global standards for fetal growth monitoring in different populations.

It has been demonstrated that ethnicity contributes to fetal growth independent of socioeconomic constraints and therefore it may not be appropriate to assume GWG, a parameter similar to fetal growth, will be uniform in all populations [4]. Further, evidence from the application of the INTERGROWTH-21st fetal growth chart in various populations has shown that growth restriction is underestimated by this chart in the European populations. The babies in these populations labeled as appropriate for gestational age by the INTERGROWTH-21st chart had a higher perinatal mortality similar to the small for gestational age baby (SGA) [5]. Similar evaluation in an Indian population demonstrated that the 'Additional SGA' identified by INTERGROWTH-21st had much lower risk of adverse outcomes than SGA identified by both INTERGROWTH-21st and population reference charts. The number needed to screen to detect one additional SGA neonate with adverse outcomes was way higher for INTERGROWTH-21st standard than reference charts [6]. So, the assumption underlying prescriptive global standards is debatable.

Our data suggests that the proportion of women in our study population with inadequate GWG as classified by the global standards are similar in general as well as in the low-risk INTERGROWTH-like populations [2, 7]. We still need to test whether the women who are additionally labeled as 'inadequate GWG' by global standards have significantly higher perinatal outcomes as compared to women with 'adequate weight gain'. Going by the evidence from fetal growth standards, there seems a

reasonable probability for misclassification of women with normal GWG as being inadequate, potentially leading to unnecessary diagnostic and therapeutic interventions [6]. Further, from a practical perspective, application of global standards like INTERGROWTH-21st had a strict inclusion criterion which might have reduced its representativeness [8]. Another note-worthy point is that the global GWG standards were developed on women with normal pre-pregnancy BMI and this excludes nearly half of women from most populations worldwide.

Population reference charts also have limitations. They assess a woman's progress against her peers within the same population, and if the population itself is experiencing issues of inadequacy or excessiveness, it could lead to a false sense of security for the women being monitored. In summary, it would be prudent to evaluate global standards and population references across different populations for their ability to correctly identify women at risk of short and long-term pregnancy outcomes in order to build a consensus on optimal GWG monitoring strategy.

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DATA AVAILABILITY

The data underlying this manuscript is available upon reasonable request to the corresponding author.

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AUTHOR CONTRIBUTIONS

RT wrote the first draft of the manuscript; SB, HSS and BKD reviewed and revised the same. All authors approved the final draft.

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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