

Introduction

- NHS England recently issued a directive ¹ against use of the INTERGROWTH 21st (IG21) estimated fetal weight (EFW) standard because of its low antenatal screen positive rate for small for gestational age (SGA) ².
- We wanted to investigate whether INTERGROWTH's standard for SFH³, based on the same 8-country cohort as their EFW standard, has an appropriate screen positive rate.

Methods

- We studied 90,601 consecutive low risk pregnancies from 43 NHS Trusts between 2023 and 2025 that had 3 or more routinely recorded third trimester SFH measurements.
- The IG21 SFH standard ³ and the GROW SFH standard ⁴ were applied to compare SGA (<10th centile) screen positive rates as well as calculation of sensitivity (detection rate) of neonatal SGA.

Results

TABLE Comparison of characteristics of study cohort and INTERGROWTH SFH cohort³

		Current Cohort	Intergrowth ³	p value
Pregnancies		90,601	4239	
Maternal height (cm)	Mean (SD)	164.2 (6.7)	162.2 (5.8)	<0.01
Maternal weight (kg)	Mean (SD)	68.2 (12.0)	61.3 (9.1)	<0.01
Body mass index	Mean (SD)	25.3 (4.0)	23.3 (3.0)	<0.01
Ethnicity British	n (%)	57572 (63.5)	606 (14.3)*	<0.01
Nulliparous	n (%)	50855 (56.1)	2907 (68.6)	<0.01
Male infant	n (%)	46068 (50.9)	2106 (49.7)	p=0.14
Preterm birth (<37+0 weeks)	n (%)	1891 (2.1)	192 (4.5)	<0.01
Birthweight \geq 37 weeks (g)	mean (SD)	3468 (440)	3267 (444)	<0.01

* Based on ethnicity rate in Villar et al. ⁵

- See Table:** Mothers in the NHS cohort were taller, heavier, with higher BMI and parity, and had babies with lower prematurity rate and higher term birthweight.
- The SGA rate amongst neonates was 7.4% in this low-risk cohort. 25.7% of these neonates were flagged antenatally as SGA from one of more SFHs by both GROW and IG21 standards.
- The fundal height measurements were at a median 33+6 weeks (IQR 29+5–36+3). The rate of SGA SFH measurements according to GROW and IG21 was 8.7% and 5.0%, respectively.
- There were an additional 12.2% of SGA neonates that had an SGA SFH by GROW only, resulting in a direction rate of 38.0%. Indicating that IG21 would have missed 32.2% of SGA neonates.

Conclusion

- Compared to the NHS population, the IG21 SFH standard is derived from smaller mothers and lower birthweights at term.
- As a result, it has a much lower screen positive SGA rate and is likely to miss many pregnancies potentially at risk due to FGR.

References

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