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SIGNIFICANT VARIANCE EXISTS BETWEEN CUSTOMISED AND HADLOCK ESTIMATED FETAL WEIGHT

Background

- Accurate estimation of fetal weight is critical in perinatal care. Traditional methods such as Hadlock formulas do not account for maternal ethnicity, potentially affecting the detection of fetal growth abnormalities.
- GROW 2.0 introduces ethnic customization, aiming for more tailored and accurate fetal growth assessments.

Methodology

- Retrospective analysis of scan data from 49 consecutive singleton births (Nov 22–29, 2024)
- Comparison of EFWs using Hadlock vs GROW 2.0 centiles
- Subgroup analysis by ethnicity
- EFW was calculated using Hadlock's formula using the head circumference, abdominal circumference and femur length. The EFW (g) was manually entered into GROW 2.0 by clinical staff.
- Data were analysed using Microsoft Excel (Windows 365), and Graphpad Prism 5.0 for Windows.

Objectives

- Compare EFW and centile distributions derived from Hadlock vs GROW 2.0
- Assess the impact of ethnic customization on EFW classification

Result

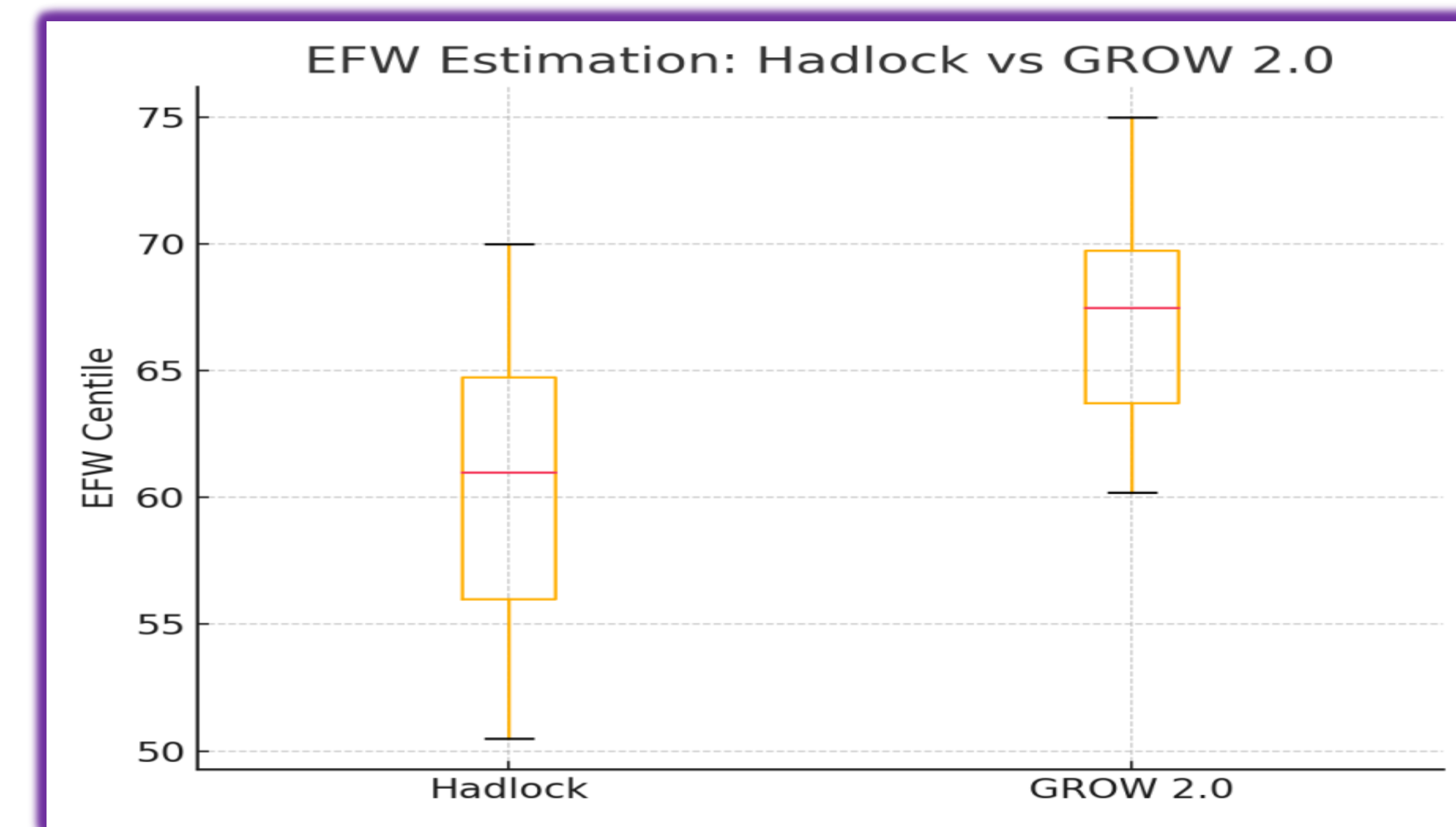
- There is discrepancy between the Hadlock calculated EFW compared with GROW 2.0; more prominent when restricted to BAME women
- 10% of the women had SGA babies and none were identified as SGA by GROW 2.0, while only one was identified as SGA during the antenatal period by the Hadlock chart.

Conclusion

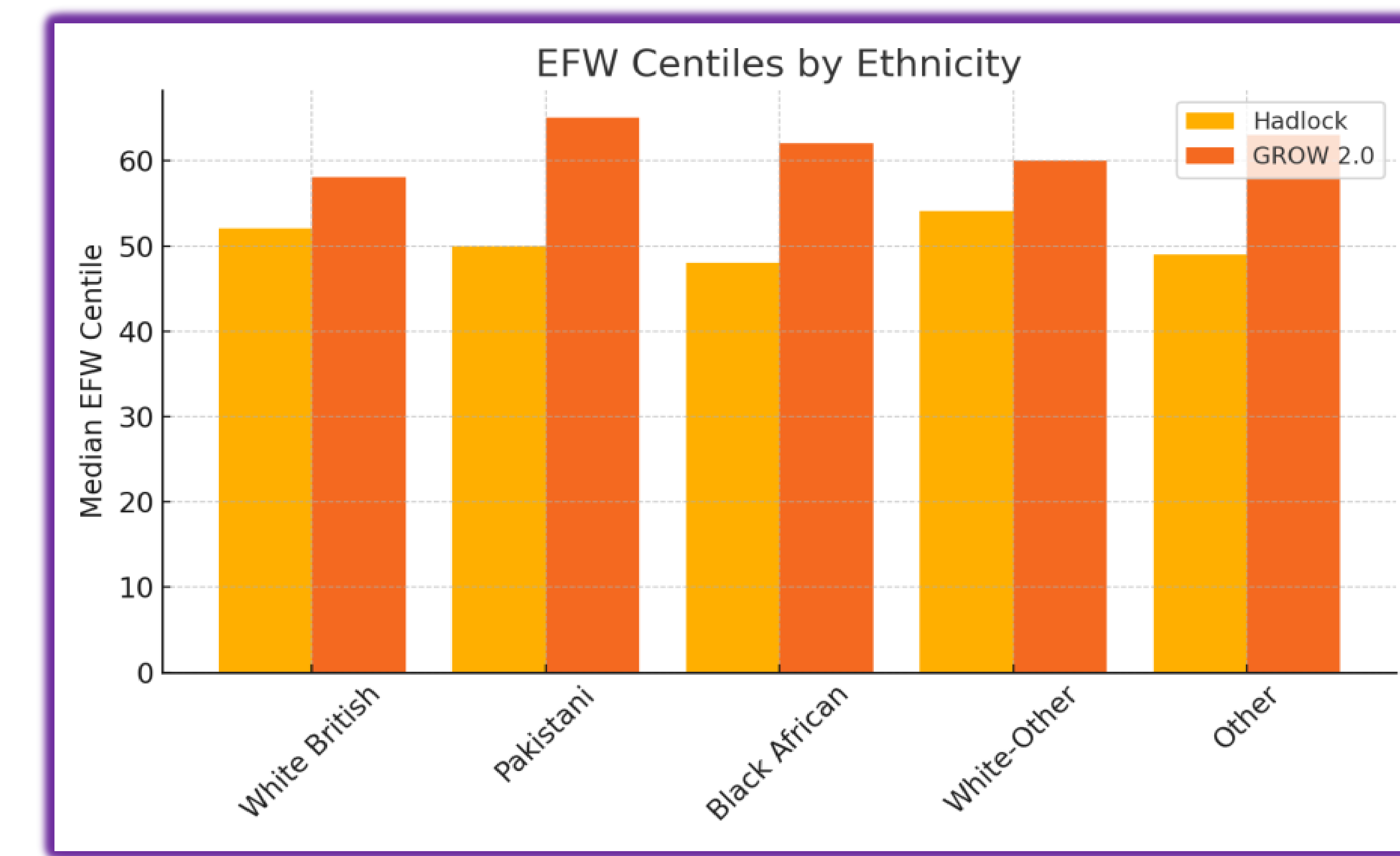
- GROW 2.0 consistently reports higher EFW centiles, especially among minority ethnic groups.
- GROW 2.0 did not identify any SGA fetuses, whereas Hadlock identified one
- These results imply that GROW 2.0 may have limitations in accurately identifying SGA, especially in ethnic minority populations.
- Additional studies are required to assess the impact of GROW 2.0 on SGA diagnosis and the clinical outcome in ethnic minorities.

Key message

- A service evaluation project is required to examine the effectiveness of GROW 2.0 in detecting SGA fetuses and its clinical implications, particularly in light of its discrepancies with population-based reference charts.



GROW 2.0 consistently produced higher EFW centiles



References

1. Hadlock, F.P., Harrist, R.B. and Martinez-Poyer, J., 1991. In utero analysis of fetal growth: a sonographic weight standard. Radiology, 181(1), pp.129–133. <https://doi.org/10.1148/radiology.181.1.1887021>
2. Francis, A., Hugh, O. and Gardosi, J., 2021. Perinatal outcomes in relation to ethnicity and customised fetal growth standards. BJOG: An International Journal of Obstetrics & Gynaecology, 128(1), pp.88–95. <https://doi.org/10.1111/1471-0528.16450>