Do neonatal jaundice guidelines and practice contribute to race-related health inequalities?

Dr Mailis Michaud Maturana[1], Dr Kamla Pillay[1], Dr Joanna Mena[1], Dr Eva Loucaides[1], Dr Judith Meek[1], Dr Sasha Howard[1], Dr Cheentan Singh[1], on behalf of The London REACH Network Collaborative

[1]The London Research, Evaluation and Audit for Child Health (REACH) Network, London, UK

REACH
Research, Evaluation & Audit for Child Health

BiliNEST

Jaundice: one of the most common neonatal conditions.

Kernicterus: an avoidable complication, if significant jaundice is not promptly treated

Infants from Black, South Asian or Other ethnic groups:

25% of live births but **50% of all cases of kernicterus**[1]

NHS Race & Health Observatory (RHO) 2023 report: Emphasises that visual detection of jaundice is less reliable in darker skinned neonates, recommending that this be highlighted in relevant guidance, alongside images of jaundiced neonates of all skin tones[2].

NICE (National Institute for Health and Care Excellence): Guidance now acknowledges that jaundice may be harder to detect visually in darker skin, but advises against bilirubin measurements in non-visibly jaundiced babies[3].

Aims

- Evaluate current neonatal jaundice guidelines and practice across the London region, with a specific focus on the challenges associated with visually detecting jaundice in darker-skinned neonates.
- Determine the extent to which existing guidelines and local practice acknowledge the potential for bias in visual assessments, and include recommended strategies to mitigate the impact of this, to identify areas where we can share learning points and resources to ensure equitable care for all neonates.

Methodology

Relevant information was gathered as part of the set-up phase for the pan-London BiliNEST (Bilirubin Assessment in Neonates of Every Skin Tone) prospective observational study:

Guidelines and Online Survey: Request for guideline documents and practitioner-reported practice re: routine bilirubin testing, at each London NHS site providing postnatal care

Dissemination: To paediatric resident doctors via the regional trainee-led REACH (Research, Evaluation, and Audit for Child Health) research network[4]

Analysis: Data extraction spreadsheet for quantitative and qualitative analysis

Results

26 London NHS sites were contacted. 19 guidelines on neonatal jaundice, covering 23 of 26 sites (88%), were received. 21 of 26 sites (81%) completed the survey.

- **Guidelines:** Whilst the majority of guidelines detailed the NICE-recommended assessment technique including sclera, gums, and blanched skin, **still only half acknowledged that jaundice is harder to detect visually in darker-skinned babies**. None contained or signposted to images of jaundiced babies of different skin tones. Two guidelines suggested lower thresholds for diagnostic testing in babies of darker skin tones (Figure 1).
- **Survey**: Resident doctor responses from two sites (2/21, 10%) reported that pre-discharge **bilirubin measurements had been introduced for *all* neonates**

Figure 1. Proportion of sites where local jaundice guidelines acknowledge and/or recommend specific aspects of jaundice assessment, relating to the impact of skin tone

Conclusions

- The lack of cohesive regional or national recommendations on how to optimise jaundice detection practice for neonates with darker skin is reflected in the varying local practices and guidelines across London.
- Both NICE and the RHO have called for further high-quality evidence on this topic, particularly around the impact of skin tone on jaundice detection and accuracy of assessment methods.

The REACH network **BiliNEST study** will further investigate if current practice impacts babies of some skin tones disproportionately.

- In the meantime, important and promising initiatives such as The '10 Steps to spot Jaundice in Black & Brown Babies' infographic, have been recently developed by the Medway Hospital team in collaboration with the RHO[5], highlighting the importance of a comprehensive jaundice assessment beyond visual inspection alone.
- Dissemination of such updated inclusive staff and parental educational materials, high-quality research findings, and clearer national guidelines will help address disparities in outcomes.

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2. NHS Race & Health Observatory. Review of neonatal assessment and practice in Black, Asian, and minority ethnic newborns: Exploring the Apgar score, the detection of cyanosis, and jaundice. 2023.
3. National Institute of Clinical Excellence (NICE). 2023 exceptional surveillance of jaundice in newborns under 28 days
4. https://www.reachnetworkldn.com | @reachnetworkldn
5. Ten Steps to Spot Jaundice in Black and Brown Babies: https://www.nhsrho.org/resources/ten-steps-to-spot-jaundice-in-black-and-brown-babies/ 2025.