

Health inequality audit: improving access to maternity services for reduced fetal movements

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1. Background

- UK Stillbirth rates increased from 3.9 per 1000 births in 2020 to 4.2 in 2021¹
- Health inequity contributes to stillbirth rates
 - Black African women from the most deprived areas have the highest stillbirth rate of 8 per 1000 births²
 - Other risk factors include deprivation, Afro-Caribbean or Indian ethnicity even after adjustment for other socioeconomic factors³
 - 43% of stillbirths in the covid pandemic occurred in women with a first language other than English⁴
- West Yorkshire had the highest stillbirth rate in the UK in 2021⁵
- Reduced fetal movements (RFM) is associated with stillbirth even in low-risk women with only one episode. ⁶



2. Audit Aim

To identify groups of service users who are less likely to present with reduced fetal movements to Leeds Teaching Hospitals, to identify the target group of local interventions to prevent avoidable stillbirths.

3. Methods

- Data extracted from digital maternity records from 1st of January 2019 – 31st December 2022
- Patients with miscarriage or termination excluded.
- Multiple logistic regression used to examine effect of demographic variables on likelihood of presenting with RFM

4. Results

- 32006 total attendances for RFM made by 15401 individual service users
- Outcomes associated with lower likelihood of presenting with RFM (table 1):
 - Black African
 - Any Other White Background
 - English is not first language
 - Older age at booking
 - Increasing parity
- No association with index of multiple deprivation (IMD) decile (table 1)
- Increased likelihood of presenting with RFM amongst service users of Indian Asian, mixed White and Asian, and other Asian ethnicity (table 1)

5. Discussion

- Findings are consistent with other published research on predictors for presentation with RFM ^{7,8}
- Focus groups are currently underway to understand service users' perspective
- Physiological differences in ethnicity is not a recognised factor that reduces maternal awareness of fetal movements⁹
- Unknown reasons for non-presentation with RFM may be exacerbated by racism within maternity services for service users of Black African ethnicity ^{10,11,12}
- Migrant service users face many structural and cultural barriers to care, including language and other competing needs ¹³
- Research needed to understand maternity outcomes of service users “of any other white background”

Table 1: Results of multiple logistic regression model: likelihood of presenting with RFM according to ethnicity, deprivation, age, parity & first language

Outcome	Relative Risk Ratio	P value	95% Confidence Interval	
IMD decile	0.995	0.28	0.99	1.00
White: British	1.00	-	-	-
Any Other Ethnic Group	1.04	0.62	0.89	1.22
Asian: Any Other Background	1.27	<0.001	1.08	1.49
Asian: Bangladeshi	0.91	0.42	0.72	1.15
Asian: Indian	1.21	0.01	1.05	1.39
Asian: Pakistani	1.02	0.64	0.93	1.13
Black: African	0.74	<0.001	0.67	0.82
Black: Any Other Background	0.79	0.26	0.52	1.19
Black: Caribbean	0.88	0.28	0.69	1.11
Chinese	0.90	0.48	0.68	1.20
Mixed: Any Other Background	1.15	0.30	0.88	1.49
Mixed: White and Asian	1.39	0.02	1.05	1.85
Mixed: White and Black African	1.13	0.51	0.78	1.65
Mixed: White and Black Caribbean	1.11	0.27	0.92	1.34
Not Stated	0.93	0.60	0.72	1.21
White: Any Other Background	0.75	<0.001	0.67	0.84
White: Irish	1.07	0.64	0.80	1.45
English is not first language	0.75	<0.001	0.69	0.82
Age at Booking	0.97	<0.001	0.97	0.98
Parity	0.83	<0.001	0.81	0.85

6. Strengths & Limitations

Strengths of this audit include large audit population over long time period, examining outcomes not yet explored in this group of service users, and better understanding of target groups for interventions to widen healthcare access. Ethnicity is a poor measure of race and cultural background, and patients may have been misclassified. Other confounding factors may account for the results. Digital maternity records may contain inaccuracies in demographic data.

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