



Ethnic group disparities in neonatal mortality over two decades: comparison of three birth cohorts in Pelotas, Brazil



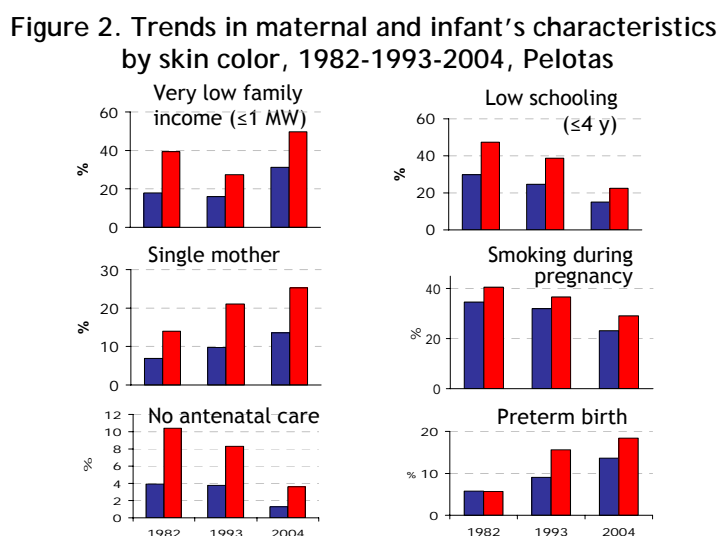
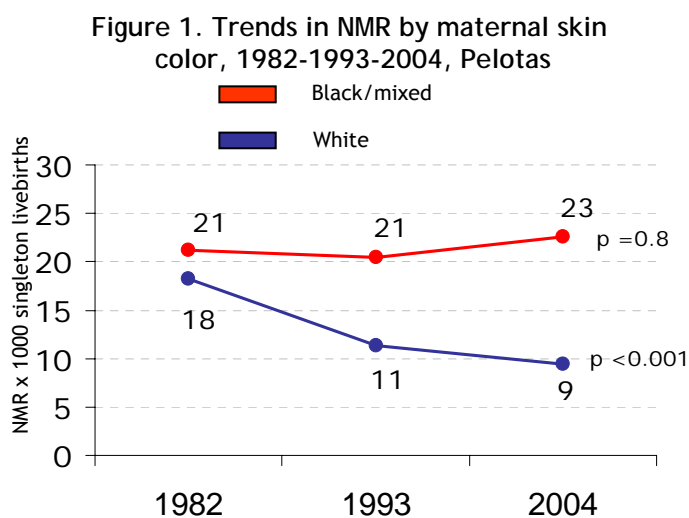
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BACKGROUND: Although infant mortality decreased in Brazil, wide social differentials still persist. Three birth cohorts representing all urban births in 1982, 1993 and 2004 in the city of Pelotas, in Southern Brazil, provide a unique opportunity for assessing these issues.

OBJECTIVES: To analyze trends in neonatal mortality for infants born to white and black/mixed mothers.

METHODS: The same methodology was used in each cohort. Births were assessed by daily visits to all maternity hospitals. Mothers were interviewed and infant deaths were monitored prospectively. Neonatal mortality was defined as an infant death during the first 28 days of life. Mothers were classified by the interviewers as white, black or mixed skin color.

FINDINGS: The number of births decreased by 24% during the study-period reflecting reduced fertility. The proportion of black/mixed mothers almost remained stable in 20%. Neonatal Mortality Rate (NMR) fell by 37% between 1982 and 2004, but the decline was restricted to children born to white women (Figure 1).



Changes in maternal characteristics were also noted (Figure 2). Black/mixed women were more likely to have low family income and low schooling, to be unmarried and to smoke. Black/mixed women were also more likely to have no antenatal care and to deliver a preterm infant.

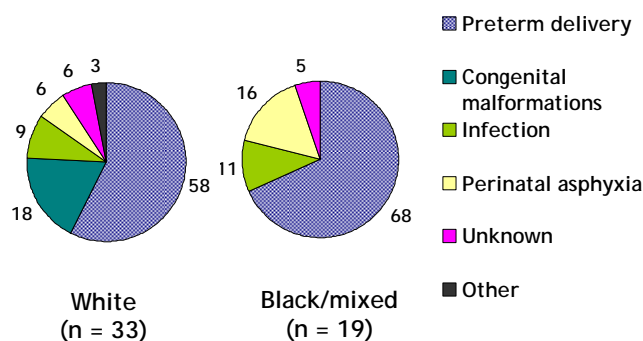
Table 1. Crude and adjusted analyses for risk of neonatal death among black/mixed women, 2004, Pelotas*.

Odds ratios for black/mixed compared to white women	OR (IC 95%)	p
Crude	2.44 (1.38; 4.32)	0.002
Model 1: Maternal education, marital status**	2.03 (1.12; 3.68)	0.02
Model 2: Model 1 + antenatal care and cigarette smoking during pregnancy	1.91 (1.03; 3.56)	0.04
Model 3: Model 2 + preterm birth	1.38 (0.68; 2.78)	0.4

* Among singleton livebirths

** Excluded: family income (p=0.7) and maternal age (p=0.7)

Figure 3. Causes of neonatal death (%) among singleton livebirths by maternal skin color, 2004, Pelotas.



Adjusted analyses showed that ethnic group differences in 2004 were partly explained by socioeconomic and behavioural factors; preterm delivery was responsible for a large proportion of the disparity in NMR (Table 1). Deaths among preterm babies and those due to infection and perinatal asphyxia were significantly (p<0.05) more common in the black/mixed group (Figure3).

CONCLUSIONS: Over a 22-year period, improvements in the NMR were restricted to children born to white women.

POLICY IMPLICATIONS: The widening race gap in neonatal mortality merits attention. Policy makers should give special attention to the needs of black/mixed women during antenatal and delivery care.