

# Social inequalities in perinatal mortality in Belo Horizonte, Brazil: the role of hospital care.

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## Background

Few studies have examined socio-economic inequalities in infant and perinatal mortality in Brazil, a country with high infant mortality (28,2/1000), incompatible with its economic development and health system. Perinatal problems are the main causes of infant mortality and the majority of births take place in hospitals, with doctors assistance. The Universal Health System (SUS) assists 80% of the population, but there is still the challenge of quality achievement. We analyze perinatal outcomes between hospitals, as there are marked socio-economic and quality of care differences.

## Methods

- ◆ A population based cohort study was established with all births (40953) and perinatal deaths (826) that occurred in 1999.
- ◆ Data were collected by hospital chart review and linkage of individual records to the National Live Birth Information System and the National Death Information System, yielding 775 perinatal deaths.
- ◆ Birth-weight specific mortality rates (BWSMR) were compared among hospital categories (public, philanthropic, private hospitals contracted to SUS versus private non-SUS hospitals) and quality score, adjusted for maternal education.
- ◆ Wigglesworth classification of perinatal death preventability was examined.
- ◆ A multilevel analysis was conducted to address the possibility of case mix.

## Findings

- ◆ Low educated mothers were concentrated in SUS hospitals, which also had the highest perinatal mortality.
- ◆ BWSMR stratified by maternal education were higher in SUS hospitals, especially for normal birth weight babies born at poor quality and private SUS hospitals (3.0 to 4.0 times higher).
- ◆ Intrapartum asphyxia was one of the leading causes of preventable deaths.
- ◆ After accounting for individual factors, including maternal education, substantial differences in perinatal deaths between hospitals were observed, with higher risk for private-SUS (OR=2.9, CI 95% 2.4-3.3) and philanthropic-SUS (OR= 1.8, CI 95% 1.3-2.3), compared to private non-SUS hospitals.

## Conclusion

Disparities in quality of care in perinatal avoidable deaths between SUS and non SUS hospitals in a segregated health system contribute to the high rates of peri-neonatal mortality in Brazil. Our findings illustrate the inverse equity hypothesis: child health inequities increase with the greater access to medical technology by those of higher socio-economic status.

## Policy implication

The study emphasized the role of hospital care in producing and maintaining unacceptable high rates of peri-neonatal mortality in the country. 30% of the SUS hospitals are private-SUS, delivering questionable quality care, demanding routine audits of hospital quality to scale up peri-neonatal and maternal care in the country.

