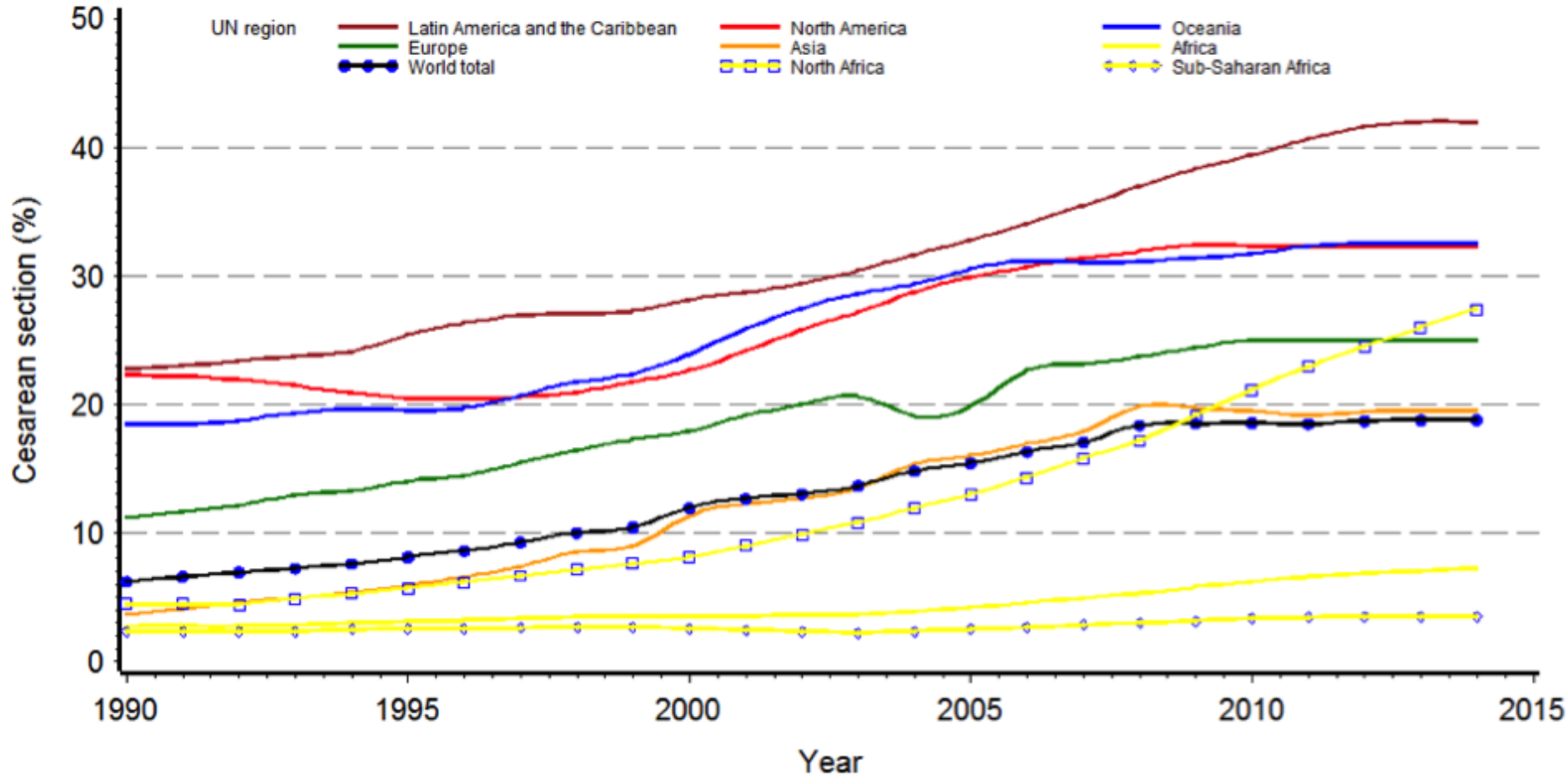


Caesarean Section rates and trends worldwide

Lale Say, Ana Pilar Betran, A. Metin Gülmezoglu

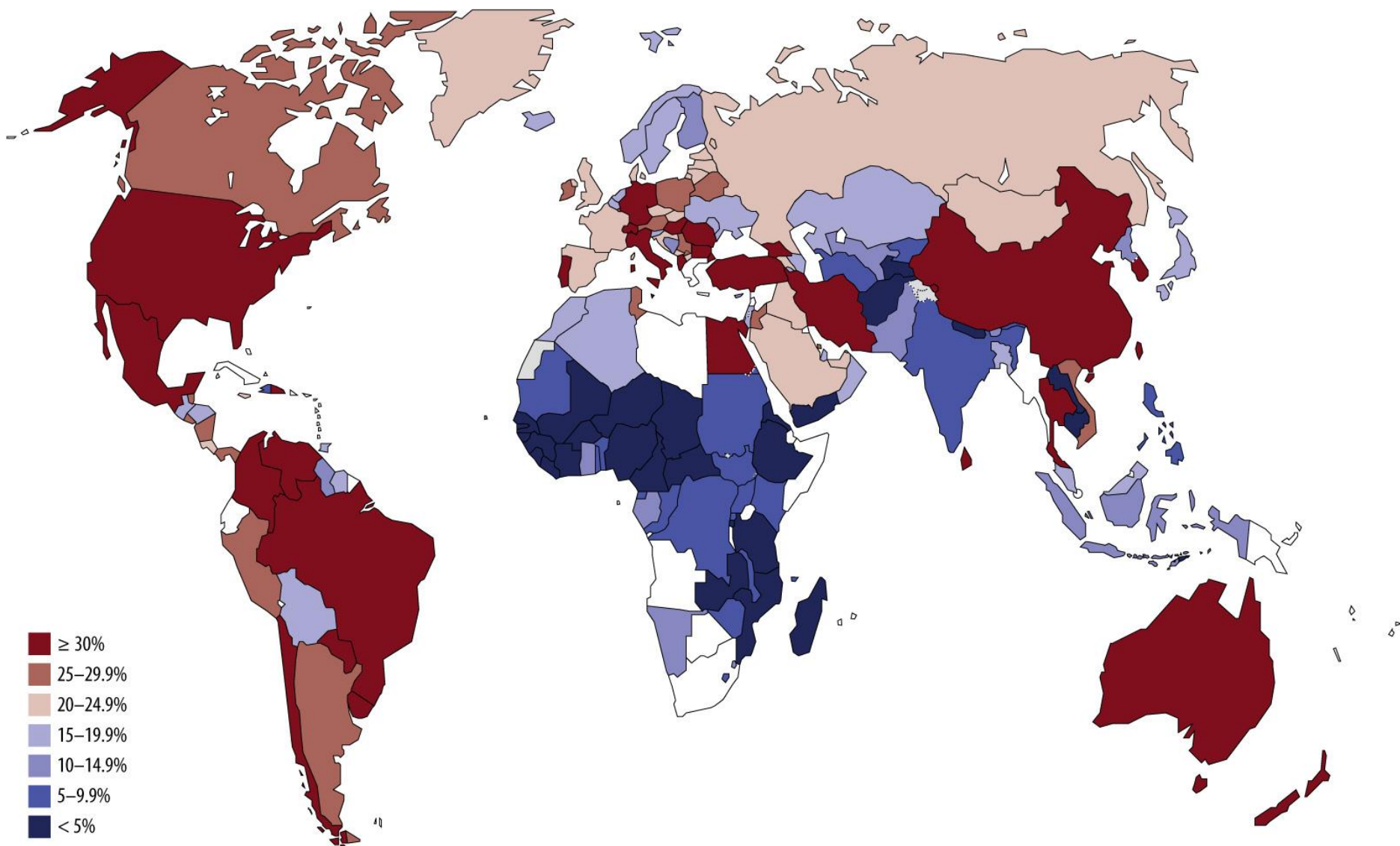


CS trends worldwide since 1990



Source: Betrán et al: The increasing trend in Caesarean section rates. PLoS ONE 2016

CS rates worldwide



Source: Betrán et al: The increasing trend in Caesarean section rates. PLoS ONE 2016

CAESAREAN SECTION RATES AT THE POPULATION LEVEL

**IS THERE AN IDEAL CAESAREAN
SECTION RATE?**

2015 WHO Statement on Caesarean Section Rates

DOI: 10.1111/1471-0528.13592

www.bjog.org

Association between rates of caesarean section and maternal and neonatal mortality in the 21st century: a worldwide population-based ecological study with longitudinal data

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Betran *et al. Reproductive Health* (2015) 12:57
DOI 10.1186/s12978-015-0043-6



REPRODUCTIVE HEALTH

REVIEW

Open Access

What is the optimal rate of caesarean section at population level? A systematic review of ecologic studies



CrossMark

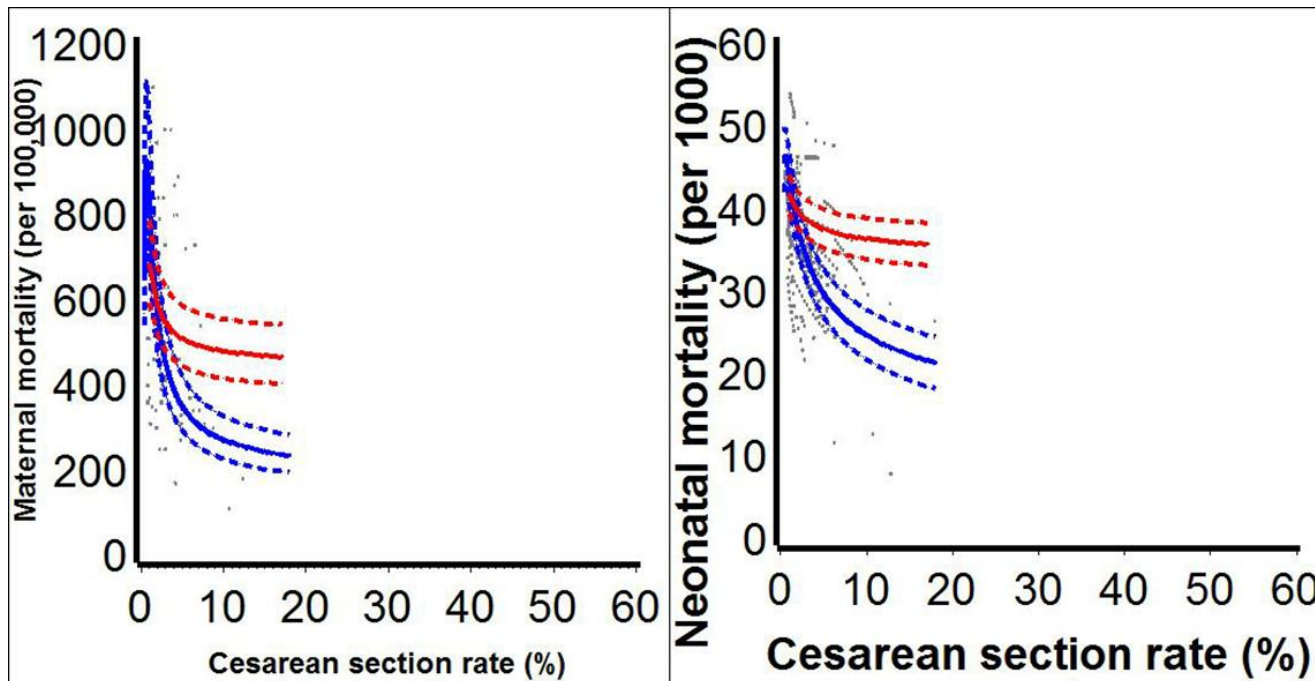
Ana Pilar Betran^{1*}, Maria Regina Torloni², Jun Zhang³, Jiangfeng Ye³, Rafael Mikolajczyk⁴, Catherine Deneux-Tharaux⁵, Olufemi Taiwo Oladapo¹, João Paulo Souza⁶, Özge Tunçalp¹, Joshua Peter Vogel¹ and Ahmet Metin Gülmezoglu¹

At population level, CS rates >10% are not associated with reductions in maternal and neonatal mortality

Least developed countries(n=41)

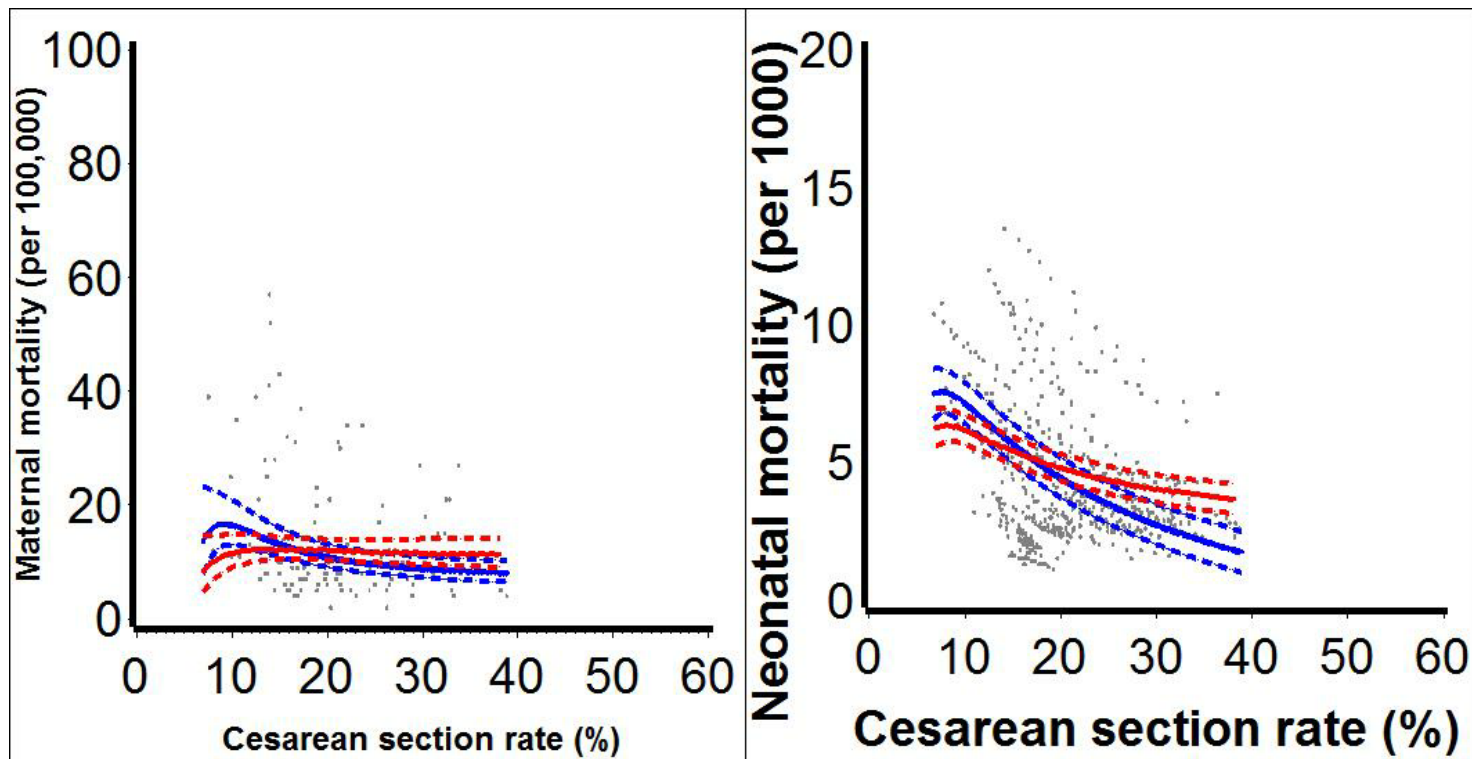
Association between CS rates vs. maternal and neonatal mortality

Without adjustment and adjusting for HDI



AMONG MORE DEVELOPED COUNTRIES (n=43)

Relationship between CS rates and maternal mortality, neonatal mortality **without adjusting** and **with adjusting** for HDI



Results

- ✓ There is a **strong inverse association between CS rates and mortality outcomes**:
 - ✓ as CS rates increase, **up to a certain threshold**, maternal, neonatal and infant mortality decrease
 - ✓ above this threshold, the association no longer exists and further increases in CS rates are not associated with improved mortality outcomes
- ✓ Point of inflection for the association between CS rates and mortality outcomes: **CS rates at about 10%** (9-16% for the systematic review)
- ✓ No morbidity outcomes were available at the population level

Caesarean Section – WHO Statement



- ✓ CS are effective in saving maternal and infant lives, but only when they are required for medically indicated reasons
- ✓ CS can cause significant complications, disability or death
 - particularly in settings that lack the facilities to conduct safe surgery and treat complications
- ✓ CS should ideally only be undertaken when medically necessary