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Trends in Preterm Birth: South Dakota, 2006-2015

Wei Bai

Bonny Specker

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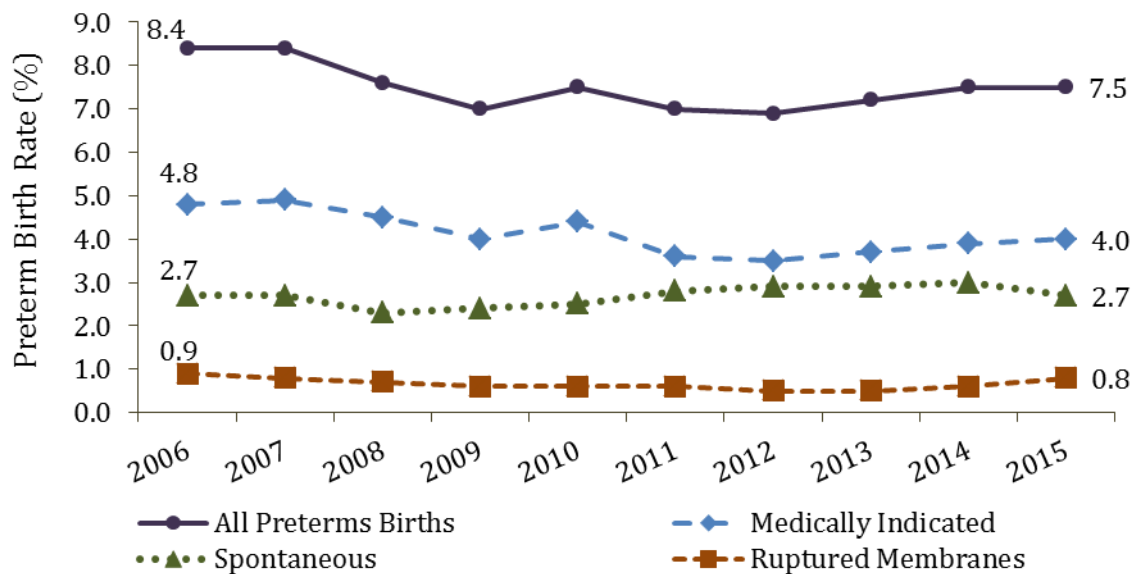
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Trends in Preterm Birth: South Dakota, 2006-2015

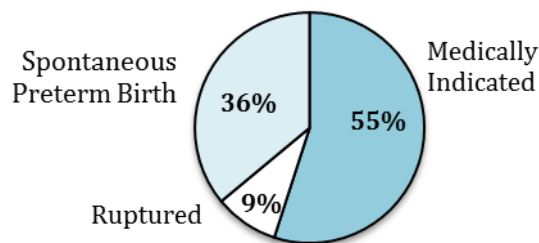
This report summarizes the 2006-2015 preterm deliveries among singleton gestations using birth certificate data from South Dakota Vital Records. Preterm deliveries were limited to births from 24 to 36 weeks of gestation. Preterm deliveries were divided into three types: (1) spontaneous labor with intact membranes (spontaneous preterm birth), (2) preterm premature rupture of the membranes (PPROM), and (3) labor induction or caesarean delivery for maternal or fetal indications (medically indicated).

General Trends

- Preterm birth rates (all types combined) among singleton gestations decreased significantly from 8.4% in 2006 to 7.5% in 2015.
 - Medically indicated and PPRM preterm deliveries had significant downward trends ($p < 0.001$ and $p = 0.03$, respectively).
 - Spontaneous preterm birth showed significant upward trend ($p = 0.01$).

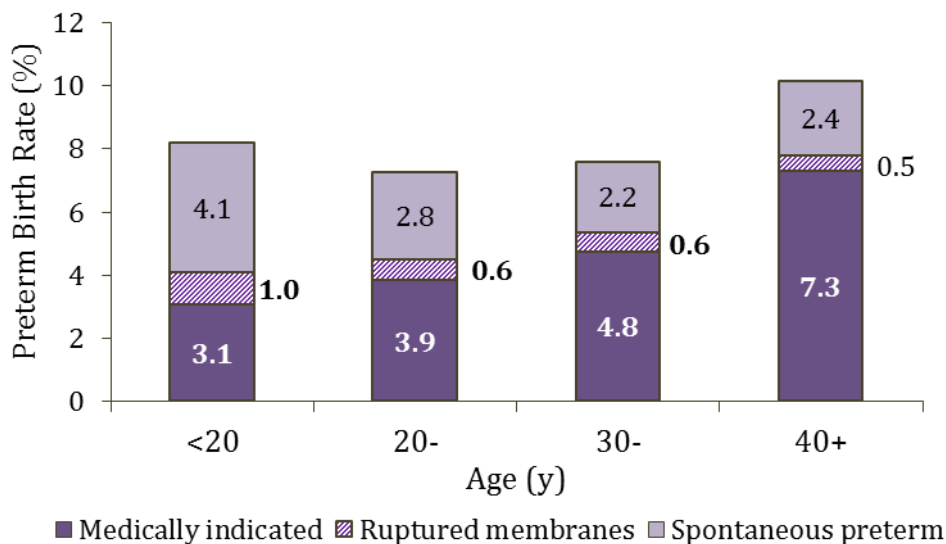


- 55% of singleton preterm deliveries were medically indicated, followed by spontaneous preterm birth (36%) and PPRM (9%).

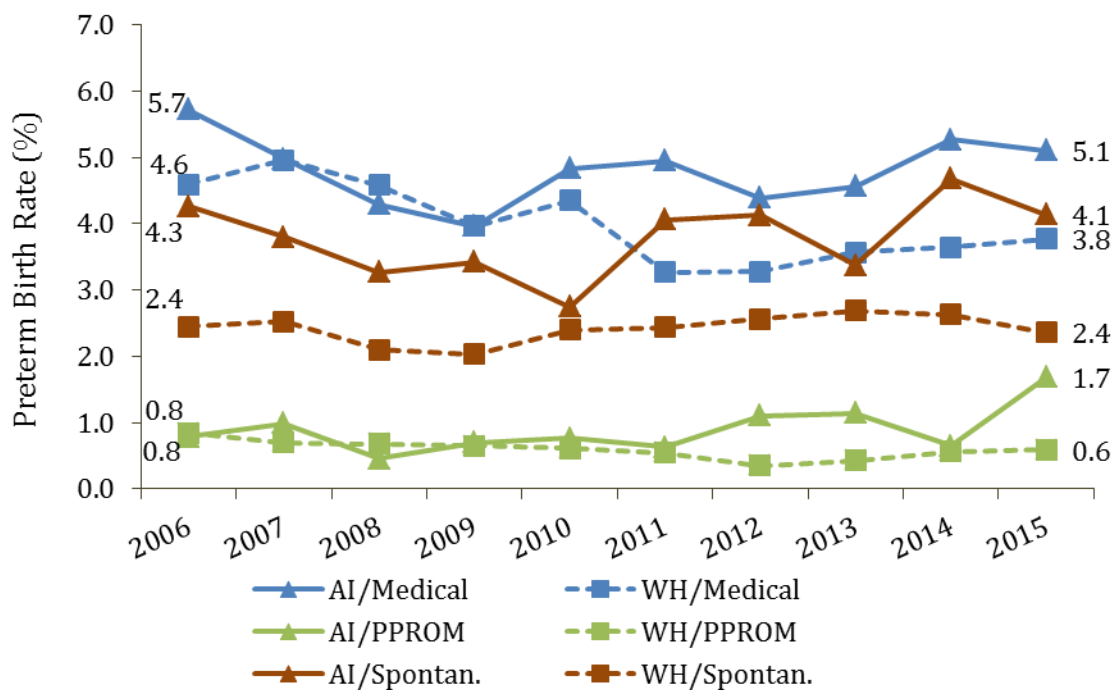


Demographic Characteristics

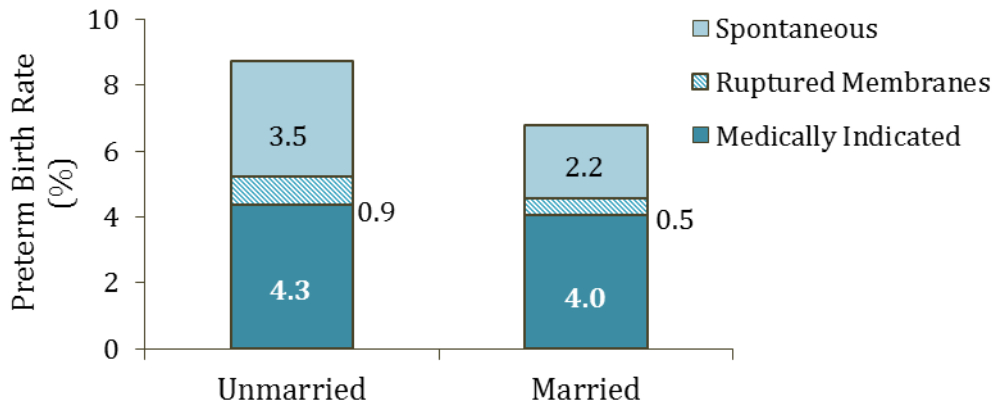
- Older *maternal age* was associated with higher rate of medically indicated preterm deliveries ($p < 0.001$), but lower rates of spontaneous preterm birth and PPRM (both, $p < 0.001$).



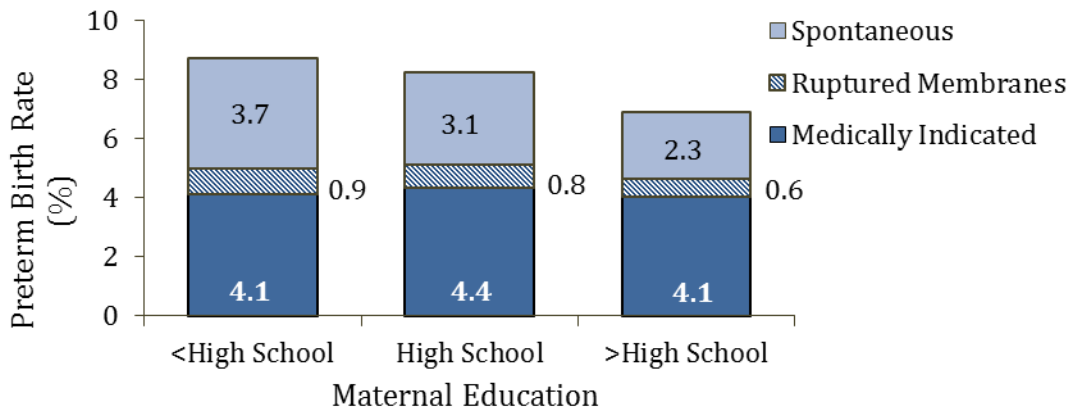
- American Indian mothers* had higher rates of spontaneous preterm birth, PPRM, and medically indicated preterm birth than White mothers. There has been a significant downward trend in medically indicated preterm birth and PPRM (both, $p < 0.001$) among White mothers, upward trend in PPRM among IN mothers ($p = 0.008$).



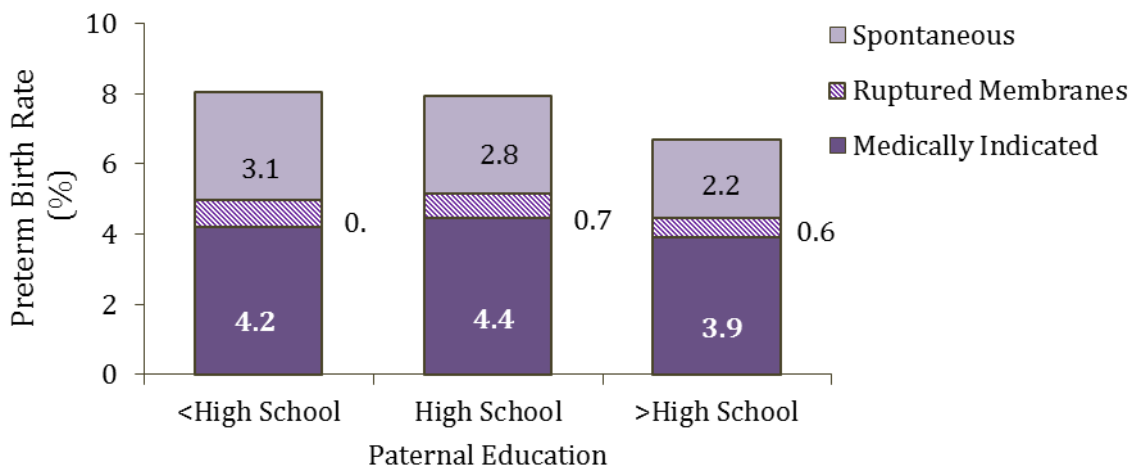
- *Unmarried mothers* had higher rates of spontaneous preterm birth, PPRM and medically indicated than married mothers (all, $p < 0.01$).



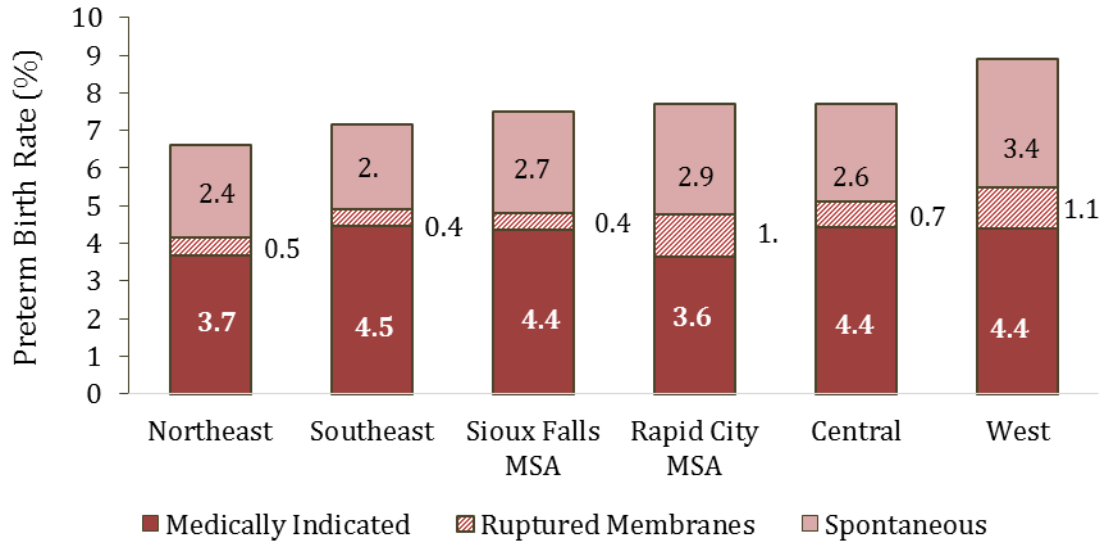
- Higher *maternal education* was associated with lower spontaneous preterm birth and PPRM (both, $p < 0.001$).



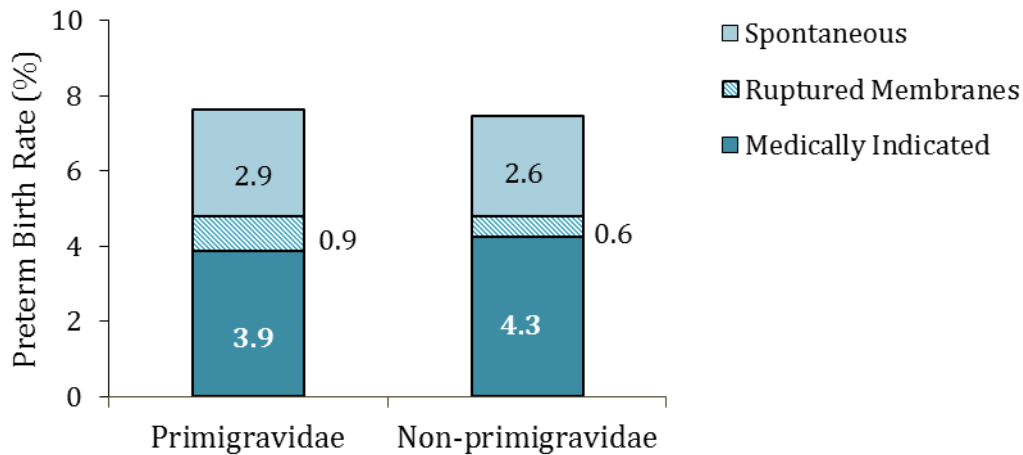
- Higher *paternal education* was associated with lower spontaneous preterm birth, PPRM, and medically indicated preterm birth (all, $p < 0.01$).



- There were *geographic differences* in the rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth.



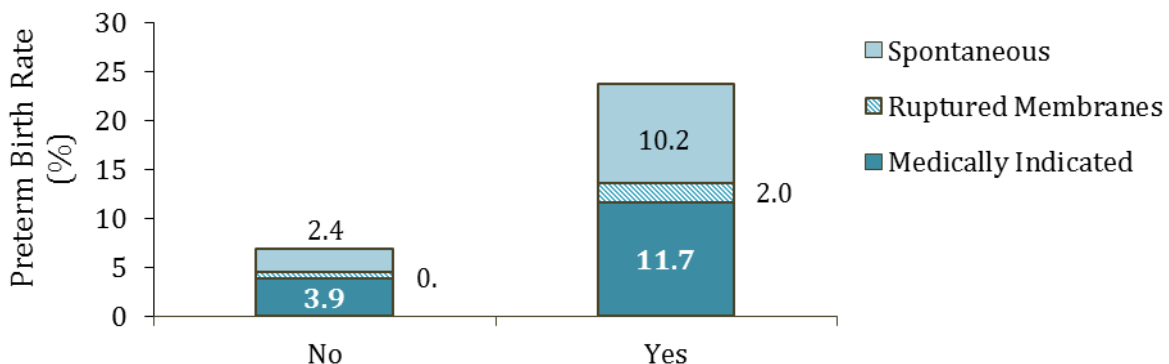
- *First time mothers* (primigravidae) had a higher PPROM and Spontaneous preterm birth rates than non-primigravidae mothers (both, $p < 0.01$) and lower medically indicated rate ($p < 0.05$).



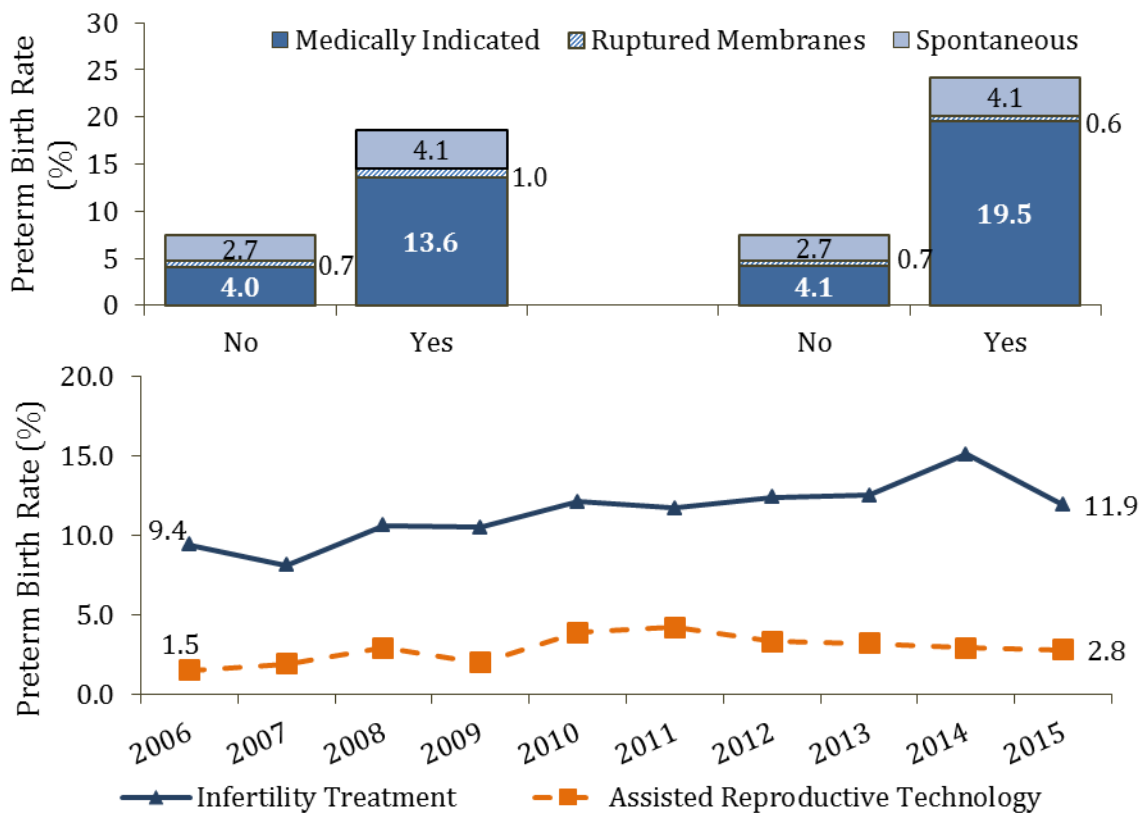
NOTE: Among primigravidae, White mothers had a higher rate of medically indicated preterm births than American Indian mothers, while American Indian mothers had a higher rate of spontaneous preterm birth rate. Among non-primigravidae, American Indian mothers had higher rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth.

Maternal Health

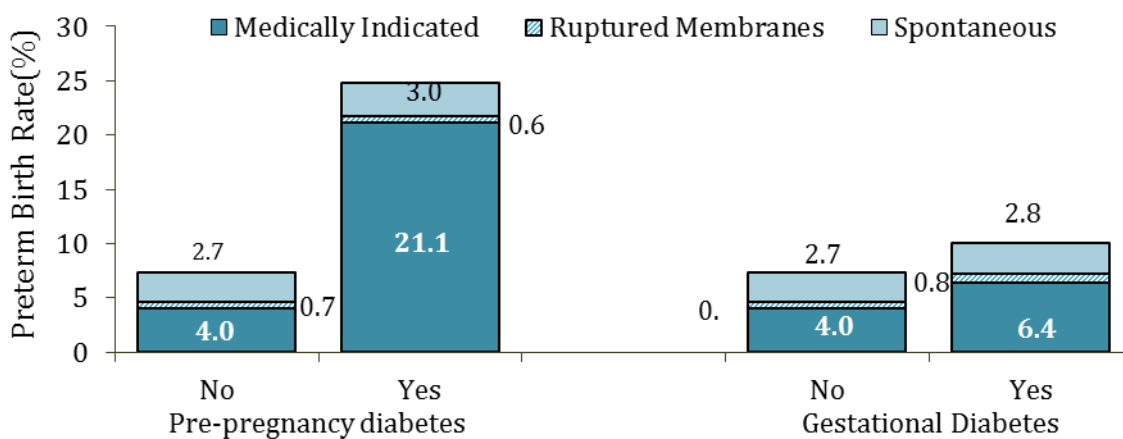
- Previous *preterm birth* was associated with increased risk of spontaneous preterm birth, PPROM, and medically indicated preterm birth (all, $p < 0.001$).



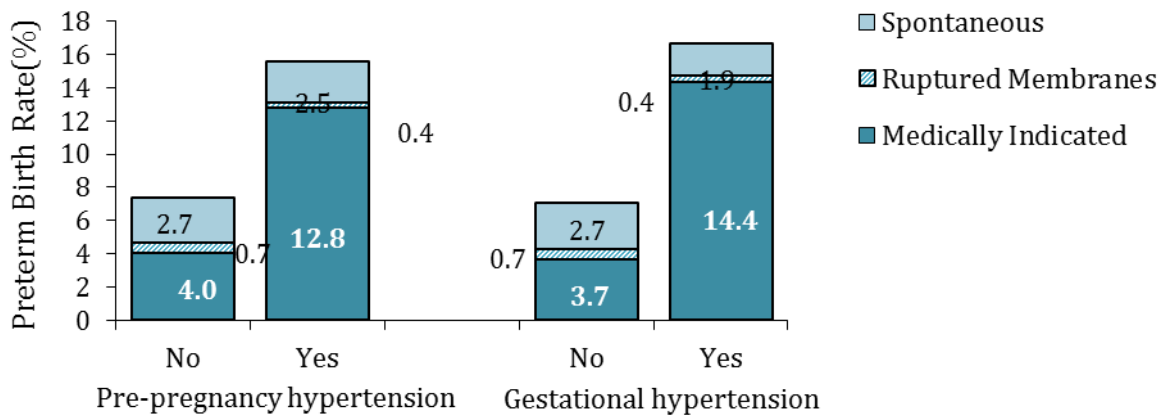
- *Infertility treatment* was associated with increased the risk of spontaneous preterm birth and medically indicated preterm birth (both, $p < 0.001$). *Assisted reproductive technology* was associated with increased the risk of medically indicated preterm birth only ($p < 0.001$). The rate of pregnancies resulting from fertility treatment and assisted reproductive technology increased from 2009 to 2015 (both, $p < 0.01$).



- *Pre-pregnancy diabetes* and *gestational diabetes* were associated with higher rates of medically indicated preterm delivery (both, $p < 0.001$).

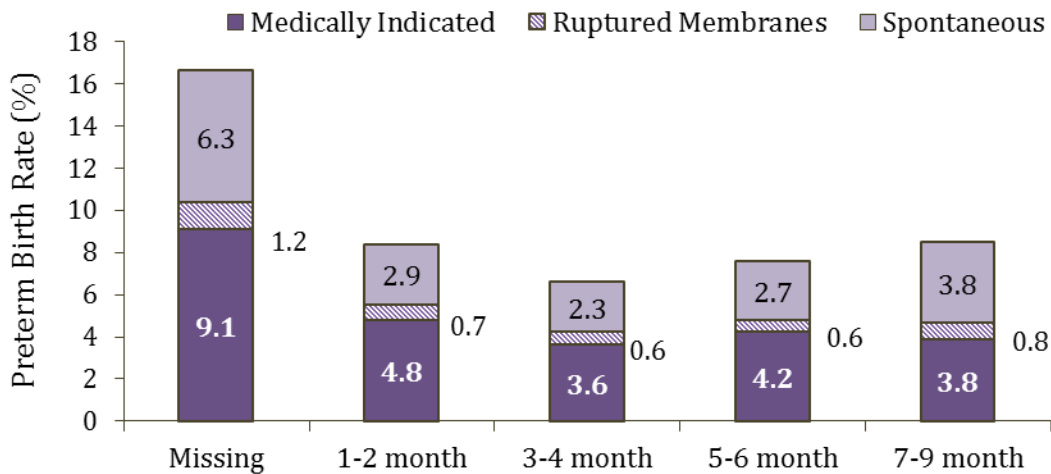


- *Pre-pregnancy hypertension* and *gestational hypertension* were associated with a higher rate of medically indicated preterm delivery (both, $p < 0.001$). Gestational hypertension was associated with lower risks of PPRM and spontaneous preterm birth (both, $p < 0.01$)

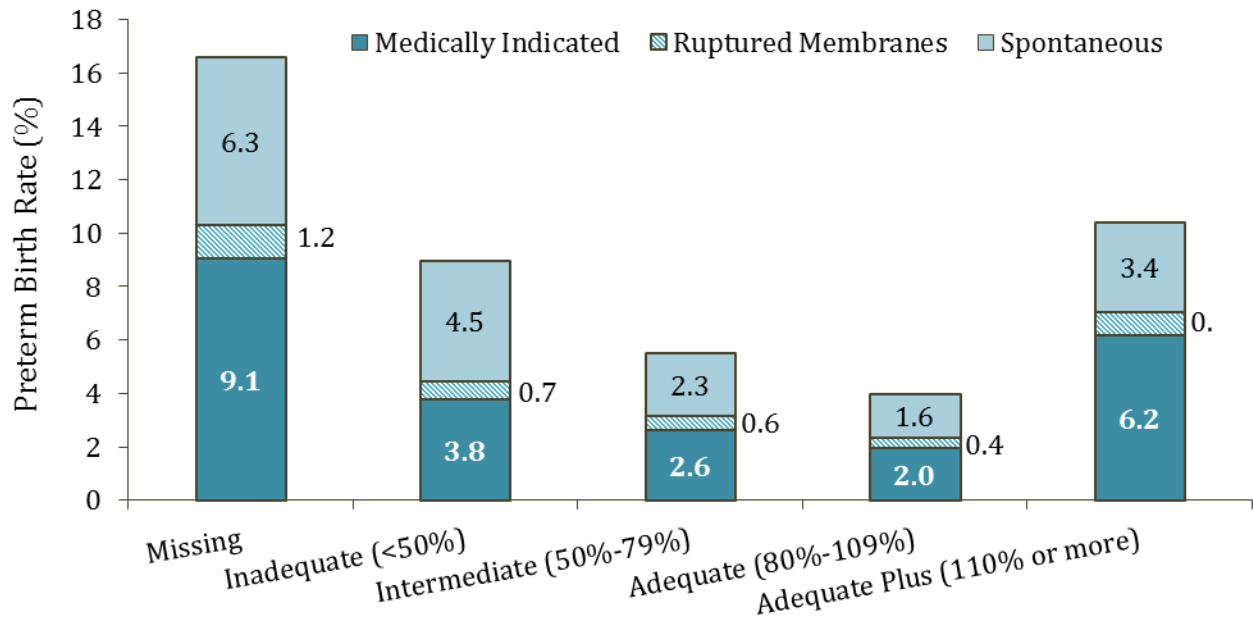


Modifiable Risk Factors

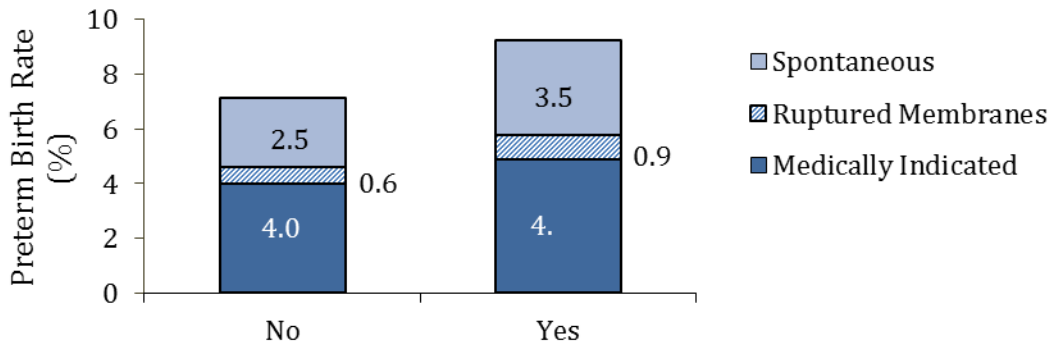
- Beginning *prenatal care* between 3 and 4 months gestation resulted in the lowest rates of PPRM, and medically indicated preterm birth.



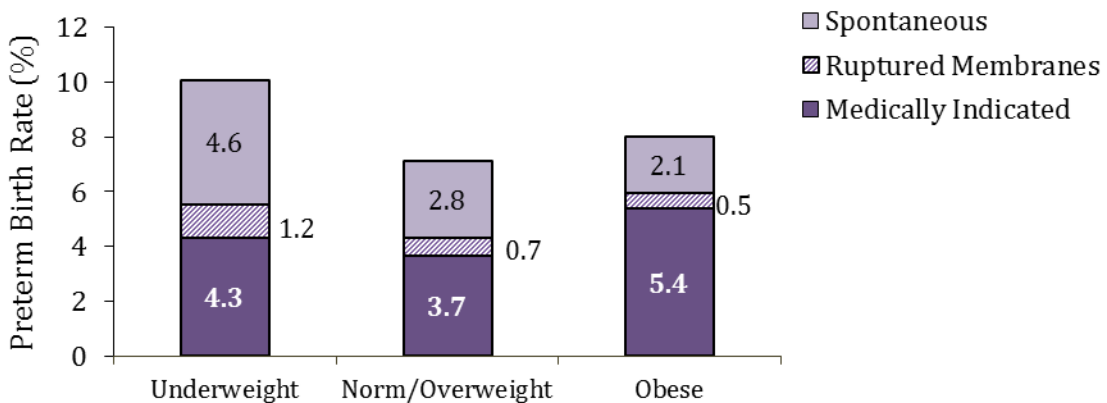
- Adequate *prenatal care*, defined as attending 80%-109% of scheduled prenatal visits, had the lowest rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth.



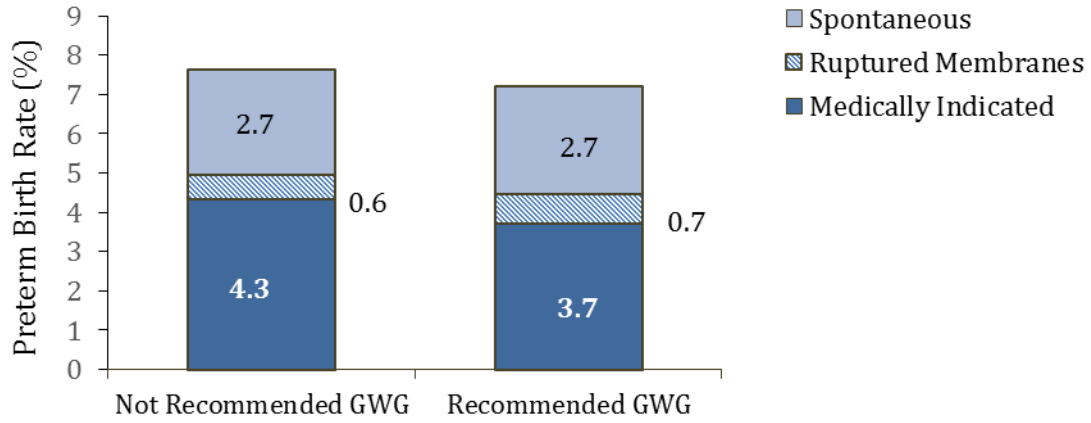
- Smoking* during pregnancy was associated with higher rates of spontaneous preterm birth, PPROM, and medically indicated preterm birth.



- Higher *pre-pregnancy BMI* was associated with higher medically indicated preterm birth ($p < 0.001$), and lower spontaneous preterm birth and PPROM (both, $p < 0.001$).



- Mothers who had *recommended gestational weight gains (GWG)* had lower medically indicated preterm birth rates ($p < 0.01$) and higher PPROM than mothers who did not meet recommendations.



Authors: Wei Bai, Ph.D. & Bonny Specker, Ph.D., South Dakota State University