

BACKGROUND

Steroids are part of standard modern obstetric practice as they have been proven to improve neonatal survival and complications associated with preterm birth, when given within 7 days of birth.

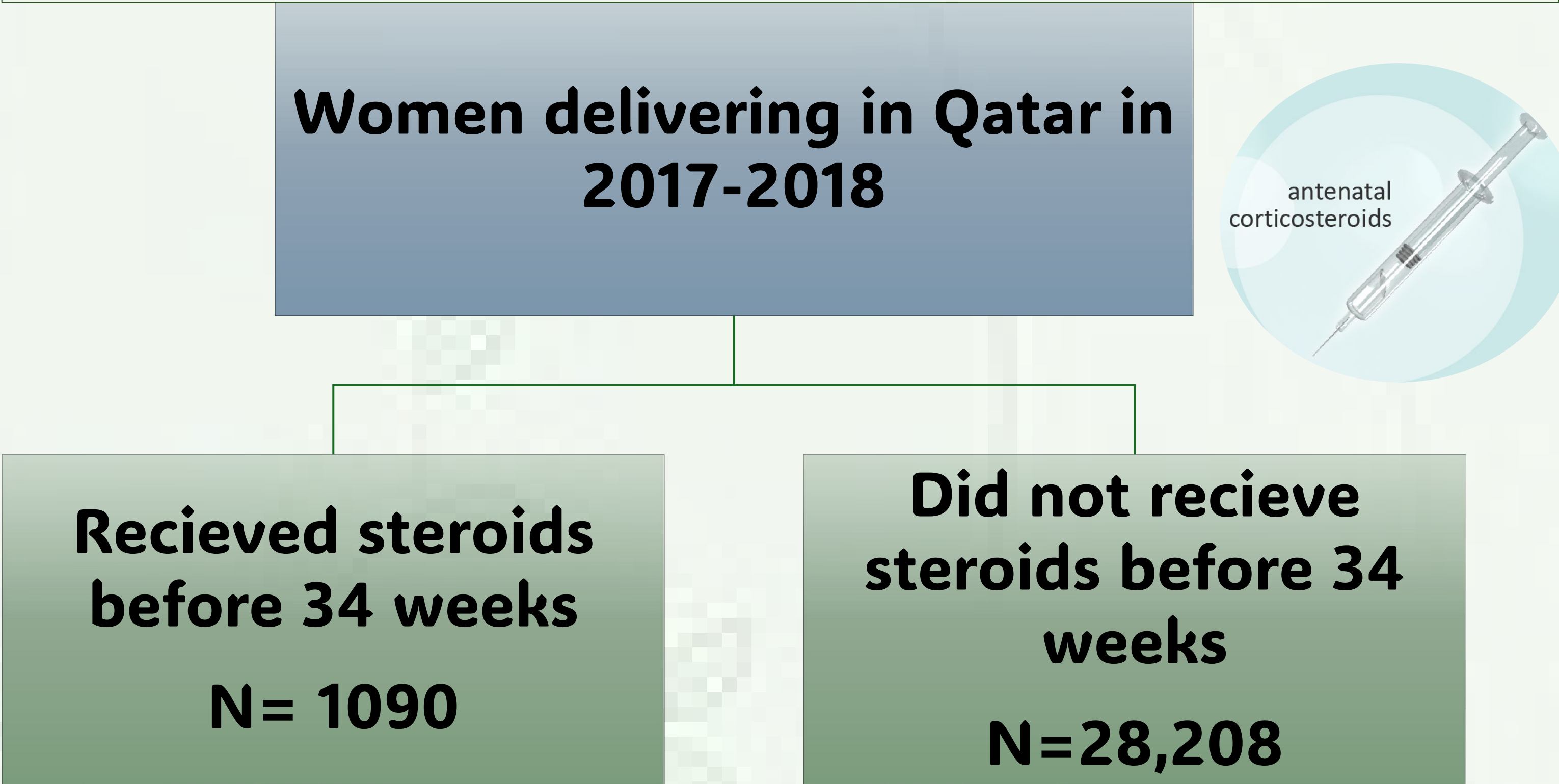
Longer duration between steroids and birth have recently been shown to be associated with small birthweight and childhood neurodevelopmental issues

OBJECTIVE

Determine the fetal growth and neonatal outcomes in babies who were delivered at term (>37 weeks gestation) after receiving steroids before 34 weeks

METHODS

Design- Retrospective population-based cohort study



Received steroids		23%		25.70%	51.30%
Did not receive steroids		0.70%			
		4.70%		95.60%	
		■ Delivery <34 wks		■ Delivery 34-36 wks	■ Delivery at Term

Growth outcomes		Steroids		Coefficients/ OR (95% CI)	P value
		No (Total N=28,208) Baseline	Yes (Total N=1090)		
Birthweight in grams (Mean, SD)	<34 wks	1744 ± 640	1639 ± 513	-128.4 (-209.7 to -47.1)	<0.001
	34-36 wks	2658 ± 494	2484 ± 516	-175.5 (-231.3 to -119.8)	<0.001
	Term	3287 ± 437	3175 ± 457	-112.6 (-148.9 to -76.3)	<0.001
Customized birthweight percentiles	<34 wks	53.1 (11.3-85.1)	50.4 (9.9-86.1)	-2.26 (-7.96 to 3.44)	0.437
	34-36 wks	59.6 (22.2-88.0)	41.9 (14.4-81.0)	-8.08 (-12.0 to -4.17)	<0.001
	Term	48.5 (23.1-75.6)	48.8 (20.3-75.3)	-0.48 (-3.02 to 2.06)	0.711
Small for gestational age based on CBW <10 th centile	<34 wks	47 (24.4%)	64 (25.5%)	1.06 (0.69-1.64)	0.782
	34-36 wks	204 (15.3%)	61 (21.8%)	1.54 (1.12-2.13)	0.008
	Term	3,003 (11.3%)	80 (14.3%)	1.32 (1.03-1.67)	0.024
Composite outcome (any of NICU, RDS, NEC, ventilation, or death)	<34 wks	185 (95.9%)	243 (96.8%)	1.36 (0.50-3.70)	0.549
	34-36 wks	493 (36.9%)	148 (52.9%)	1.91 (1.47-2.49)	<0.001
	Term	2503 (9.4%)	80 (14.3%)	1.63 (1.28-2.08)	<0.001

RESULTS

Among term births, 559 babies received steroids. The birthweight in the steroid group was lower (mean difference -112.6, p<0.001) after adjusting for maternal demographics, with 32% higher odds of SGA (OR= 1.32, p= 0.024). They also had statistically significantly higher odds of NICU admission (1.64; p<0.001) and need for mechanical ventilation (aOR 2.82; p=0.045). There were higher odds of RDS but not significant (aOR 1.54, p=0.145). Overall, this group had 63% higher odds of a composite adverse neonatal outcome (aOR 1.63; p<0.001).

CONCLUSION

This study suggests that inappropriate administration of antenatal steroids is a cause for concern, as those babies who deliver at term have a higher risk of adverse neonatal outcomes compared to those who did not receive steroids.

