

INTRAPARTUM/CLINICAL OB

Abstracts 79 – 86

Moderators: Uma Reddy, MD; Amy Murtha, MD

79 Does the laborist model improve obstetric outcomes?

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OBJECTIVE: The "laborist" concept was introduced nearly a decade ago and was offered as a plausible model of improved obstetric (OB) care delivery based on the premise of continuous coverage without competing duties. While the use of this model has gained acceptance, no studies have evaluated whether this model of care alters OB outcomes. Our objective was to evaluate the effectiveness of the laborist model compared to traditional OB care using select OB outcomes.

STUDY DESIGN: A 2010 survey of the 74 National Perinatal Information Center (NPIC) member hospitals demonstrated that nearly 40% utilize laborists. A cohort study was performed matching 8 laborist to 16 non-laborist hospitals on geography, volume, NICU, and teaching status based on the year laborists were implemented in laborist hospitals. Maternal and neonatal discharge data from all 24 hospitals was obtained. Investigators were blinded to hospital identity. A multiple time series statistical approach was used to evaluate the association between laborists and each outcome controlling for patient level characteristics, secular time trends, and baseline rates of each outcome at individual hospitals.

RESULTS: 626,772 patients were evaluated (n=24 hospitals). Implementation of laborists resulted in fewer labor inductions (AOR 0.85 [0.82-0.88], p<0.001), reduced maternal prolonged length of stay (AOR 0.92 [0.89-0.94], p<0.001), and decreased term NICU admissions (AOR 0.75 [0.67-0.83], p<0.001). Additionally, there was a significant reduction in preterm delivery (AOR 0.82 [0.78-0.86], p<0.001). Fewer babies were born at <2500 g (AOR 0.94 [0.90-0.99] p=0.02). Concurrently, cesarean delivery rates were marginally increased (AOR 1.05 [1.02-1.08], p=0.002).

CONCLUSION: Implementation of laborists improved OB outcomes. This is the first study to evaluate and demonstrate that the laborist model has an impact on OB care. Further evaluation is needed to understand the mechanism by which laborists impact outcomes in order to guide care delivery recommendations that optimize the quality of OB care.

80 Labor and delivery coverage: around-the-clock or as-needed?

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OBJECTIVE: While the utility of hospitalists for medical units has been validated, it is unclear if the implementation of "laborists", who provides around-the-clock coverage of Labor and Delivery (L&D) unit is associated with improved outcomes. We aimed to compare obstetric outcomes in hospitals with around-the-clock coverage to hospitals whose coverage is based on need.

STUDY DESIGN: This was a retrospective cohort study of singleton, term, live births delivered in California between 2005-2006. Hospitals

with fewer than 1,200 deliveries per year were excluded. Hospitals were categorized based on L&D clinician coverage as "around-the-clock" or "as-needed." Statistical analysis was performed using chi square test and multivariable logistic regression to adjust for potential confounding factors.

RESULTS: There were 740,019 term, singleton, cephalic births that met study criteria. Of these, 274,106 (37%) delivered in hospitals with around-the-clock coverage and 465,913 (63%) delivered in hospitals with as-needed coverage. Compared to as-needed coverage, the overall cesarean delivery was lower in hospitals with around-the-clock coverage, as was primary cesarean delivery in both nulliparous and multiparous women (Table). The proportion of women who underwent a trial of labor after cesarean (TOLAC) and achieving vaginal birth after previous cesarean (VBAC) was higher with around-the-clock coverage (Table). Additionally, women were more likely to have labor induction with around-the-clock than as-needed coverage, though they remained to have lower odds of cesarean.

CONCLUSION: In California, around-the-clock L&D coverage is associated with decreased odds of cesarean delivery and increased likelihood of trial of labor after cesarean and achieving vaginal birth after previous cesarean but increased induction of labor. Whether the observed difference in outcome can be attributable to the implementation of a "laborist" model deserves further investigation, particularly as more hospitals are considering such staffing changes.

	Around-the-clock (%)	As-needed (%)	P-value	aOR**	95%CI
Cesarean Delivery:					
All (n=740,019)	25.6%	28.2%	< 0.001	0.84	0.83 – 0.85
Nulliparous (n=293,756)	25.6%	27.2%	< 0.001	0.83	0.82 – 0.85
Parous* (n=372,287)	7.45%	8.66%	< 0.001	0.83	0.81 – 0.85
TOLAC (n=107,401)	10.2%	4.3%	< 0.001	2.33	2.21 – 2.45
VBAC (n=6,858)	74.4%	72.0%	0.02	1.19	1.05 – 1.34
Induction (n=538,745)	17.3%	14.8%	<0.001	1.11	1.10 – 1.13
Among IOL:					
Cesarean nullip*** (n=51,599)	34.2%	35.3%	0.008	0.89	0.86 – 0.93
Cesarean parous*** (n=54,192)	7.4%	8.0%	< 0.001	0.87	0.81 – 0.93

*excludes women with a prior CD

** Adjusted for maternal age, race, insurance status, labor induction, parity, diabetes, hypertensive diseases, renal disease, placenta abruption, previa, hospital volume, academic hospitals, hospital region

*** cesarean delivery among women who were induced

81 The cost effectiveness of 24 hr in-house obstetric coverage

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OBJECTIVE: In the event of catastrophic labor events, maternal and fetal outcomes are improved with immediate delivery via cesarean section. This becomes more difficult in hospitals without 24-hour in house obstetric coverage. Our goal was to estimate the costs and outcomes associated with emergent deliveries in hospitals with 24hr cov-