

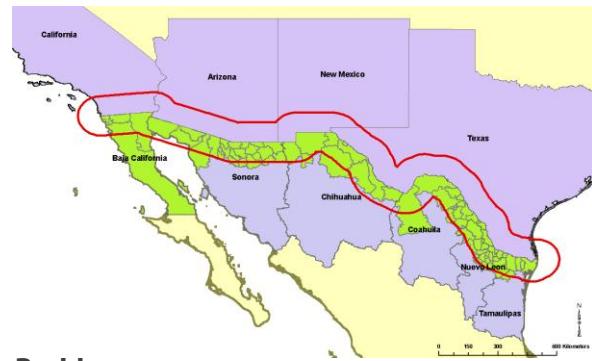
The Epidemiology of *Operación Cesárea* in Mexican Border Communities

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BACKGROUND

Setting: Mexican Border Communities

The Mexican and U.S. sections of the border region (outlined in red) were defined in 1983 by the La Paz Agreement. The Mexican section includes the 80 *municipios* (in green) \leq 100 km. from the U.S. border.



Problem:

Cesarean birth (CB) in Mexico is associated with increased newborn and maternal complications and tax the Mexican health care system.¹

Estimates of the prevalence of CB in Mexican border states are higher than estimates for Mexico overall.

Survey data from one Mexican border community in 2005 showed that 43% of women giving birth had a CB, including 39% of women ages 14-24. Older age, higher education, married status, employment, early prenatal care, private medical coverage, obesity and high-risk pregnancy were associated with CB.^{2,3}

The extent to which the pattern of CB in this single community reflects the pattern in all Mexican border communities is unknown.

Study objective:

To describe the epidemiology of CB in the 80 Mexican border *municipios*.

METHODS

Data source, study population and analysis:

The data were derived from the 2006 National Survey of Health and Nutrition, a household survey conducted at the state and national levels every six years.⁴

Women ages \geq 20 who reported a live birth in the last 5 years in the border *municipios* of the states of Baja California, Sonora, Chihuahua, Coahuila, Nuevo Leon and Tamaulipas were selected (N=511; weighted N=45,241).

Eight socio-demographic and clinical covariates were explored.

Weighted proportions of women with a CB and with a vaginal birth were calculated overall and for each covariate; chi square tests were performed.

Each covariate was further studied in a multivariate logistic regression model of CB.

RESULTS

Prevalence of CB in Mexican border communities, weighted, 2006

Overall prevalence: 42.9% (37.9% - 47.9%)

COVARIATE	n	%CB	p
Age (yrs)	20-24	97	31.3
	25+	403	45.9
Education	<HS	412	41.4
	HS+	88	49.4
Insurance	Yes	264	41.4
	No	236	44.7
Birth hospital	Private	149	51.2
	Other	351	38.9
Medical risks	Yes	163	48.6
	No	337	40.2
Parity	1	87	50.3
	2+	413	41.2
Prenatal care	1 st Trimester	412	43.5
	Late/none	88	40.1
Birth weight	<4000 gm	117	49.6
	>4000 gm	383	40.8

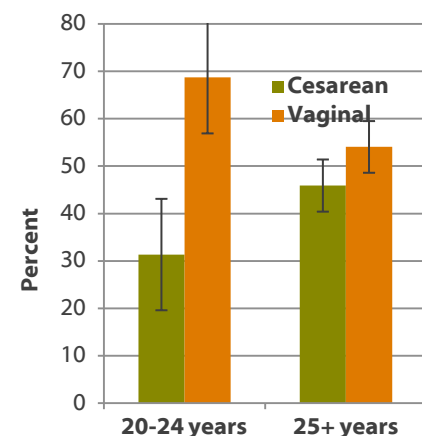


Figure 1: Cesarean and vaginal births by age group

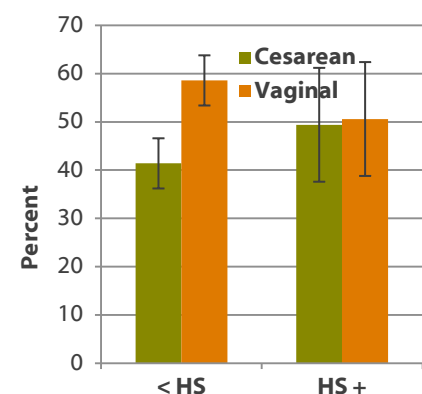


Figure 2: Cesarean and vaginal births by education

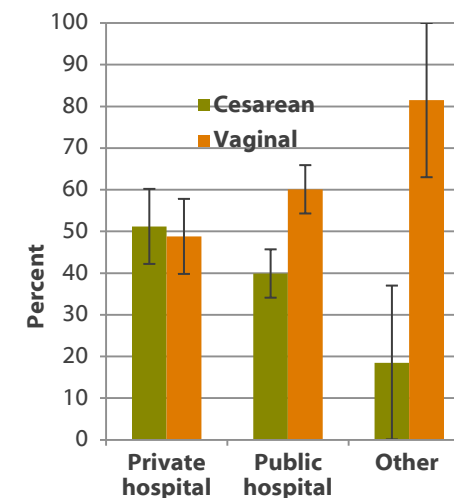


Figure 3: Cesarean and vaginal births by type of birth facility

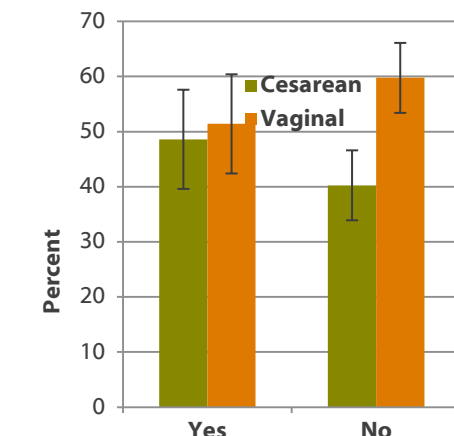


Figure 4: Cesarean and vaginal births by medical risks

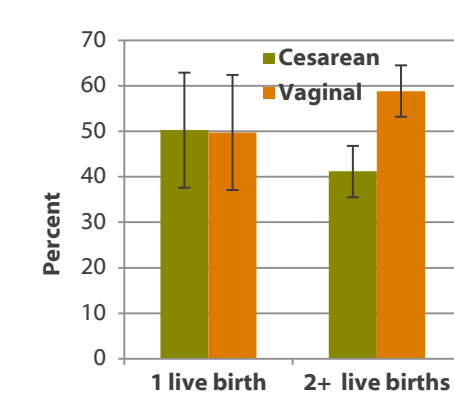


Figure 5: Cesarean and vaginal births by parity

Prevalence of CB in Mexican border communities by state, weighted, 2006



Logistic regression results:

Adjusted odds ratios and 95% confidence intervals for CB for each covariate

COVARIATE	ODDS RATIO	95% CONFIDENCE INTERVAL
Age group (yrs) *	2.5	1.3 - 4.7
\geq 25 vs. 20-24		
Education	1.3	0.8 - 2.2
\geq HS vs. <HS		
Health insurance	0.9	0.6 - 1.4
Yes vs. No		
Birth hospital *	1.6	1.0 - 2.5
Private vs. other		
Medical risks	1.5	0.9 - 2.3
Yes vs. No		
Parity *	0.5	0.3 - 0.99
\geq 2 vs. 1 live birth		
1 st trimester prenatal care	1.1	0.7 - 2.0
Yes vs. No		
Birth wt \geq 4000	1.4	0.9 - 2.2
Yes vs. No		

* Statistically significant at $p < .05$

DISCUSSION

CB prevalence in Mexican communities in the US-Mexico border region is 3X the optimal rate of 10-15%, according to the World Health Organization.

These results exceed the 2004 CB prevalence in US communities in the region of 31%.⁵

Medical risks are not significantly related to CB in Mexican communities in the border region.

Older age, lower parity and private birth hospitals are associated with CB in this population.

Older primiparous women may delay childbirth and have the resources to use private birth hospitals.

Physician practices in private birth hospitals and mode of delivery preferences of women who use private hospitals may increase the prevalence of CB in such hospitals.

RECOMMENDATIONS

Conduct in-depth studies of CB decision-making among pregnant women who are not planning to have a CB and among their physicians.

Work binationally to address non-clinical risk factors for CB across the border region. Risk factors may vary by state.

Ultimately, develop interventions to reduce the prevalence of CB and prevent unnecessary morbidity among newborns and mothers.

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