

Factors Associated with Low Birth Weight in Mississippi



Study Question:
What Factors are associated with low birth weight (LBW) in Mississippi?



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Conclusions:
The use of tobacco before and during pregnancy is different between white and black mothers. Tobacco use should be a great concern for white mothers for the effect on LBW.

Results:
An evaluation of association was done for each mother's race, since interaction was found significant with tobacco use. White mothers who smoked were about 2.3 times more likely to deliver a LBW than mothers who did not smoke. This association was significant (OR=2.28, 95%CI=1.39-3.76). Black mothers who smoked were about 50% more likely to deliver a LBW than mothers who did not smoke. However, this association was not significant (OR=1.49, 95%CI=0.64-3.49). The limitations of this study may include that only 8 months of the data was used so the results may not represent the entire situation in 2006.

METHODS:
In 2006 from February to September, a total of 1008 women participated in the Mississippi Pregnancy Risk Assessment Monitoring System. The overall response rate was 70% which met the requirements to provide weighted estimates (LBW). Factors included in this study were tobacco, mother's race, age, alcohol use, and stress. The outcome variable was low birth weight. A binary logistic regression model was used evaluate the association between tobacco use and LBW, adjusting for mother's race, age, alcohol use, and stress. Stata version 10 was used for analysis.

Background:
In 2005, Mississippi reported the highest infant mortality rate in the US. Several studies have addressed the association between LBW and infant mortality. This research investigates factors associated with LBW in Mississippi.

Public Health Implications:
Smoking and the effects of poor birth outcomes continues to be a public health issue. Based on this study different approaches may be needed to address the differences in smoking characteristics of white and black pregnant women. Reaching the targeted population with public service information, smoking cessation programs and availability of these programs could benefit from the differences found in this study.

The Association Between LBW & Mother's Condition

Black:

Mother's Condition	Odds Ratio	p-value	95% CI
Age Grp < 19 yrs*	1.20	0.51	(.70, 2.07)
Age Grp 19-24 yrs*	1.18	0.49	(.73, 1.91)
Age Grp 25-34 yrs*	1.11	0.79	(.51, 2.41)
Drinking	1.61	0.40	(.53, 4.86)
Smoking	1.49	0.35	(.64, 3.49)
Stress	1.01	0.95	(.66, 1.55)

*Age Grp 35+ is the reference group

White:

Mother's Condition	Odds Ratio	p-value	95% CI
Age Grp < 19 yrs*	1.20	0.59	(.61, 2.34)
Age Grp 19-24 yrs*	.95	0.84	(.56, 1.59)
Age Grp 25-34 yrs*	1.35	0.46	(.61, 2.94)
Drinking	.77	0.61	(.29, 2.08)
Smoking	2.28	<0.01	(1.39, 3.76)
Stress	1.29	0.27	(.82, 2.02)

*Age Grp 35+ is the reference group