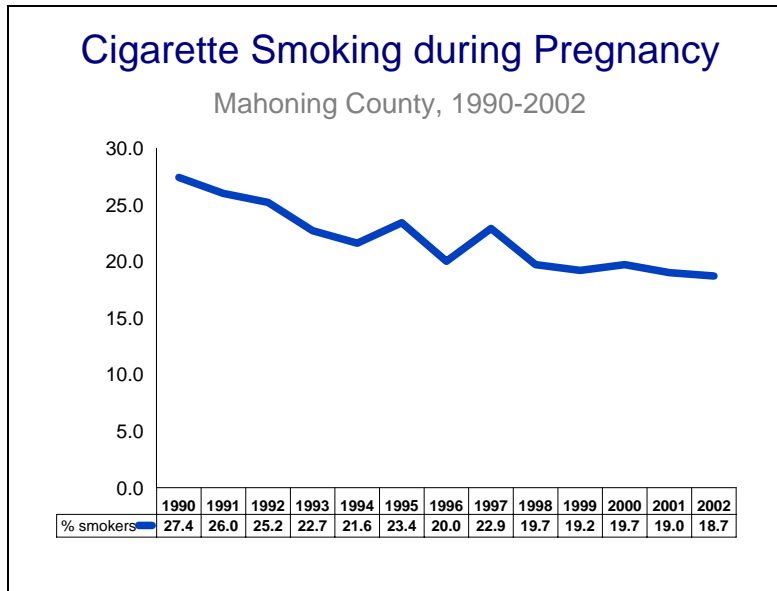


DISTRICT BOARD OF HEALTH

Cigarette Smoking During Pregnancy and Low Birth-Weight Babies

Low birth weight (less than 2,500 grams or 5.5 pounds) is a significant contributor to health and developmental problems and deaths among infants. An important risk factor for low birth weight is cigarette smoking during pregnancy, which has also been linked to an increased risk of preterm (premature) delivery.

Fewer new mothers in Mahoning County reported smoking cigarettes while they were pregnant in 2002, continuing the downward trend in smoking prevalence observed throughout the 1990's. Although the 18.7 percent smoking prevalence rate (reported on birth certificates) in 2002 represents a 23 percent reduction in cigarette smoking since 1991, it is unlikely that Mahoning County will achieve the national health goal of no more than 5 percent smoking prevalence during pregnancy by 2010.



Using information available from 2002 birth certificates, we were able to estimate the proportion of low birthweight deliveries that are attributable to cigarette smoking during pregnancy. Among 463 Mahoning County residents who reported smoking cigarettes during pregnancy in 2002 the rate of low birth-weight deliveries was 12.1 percent. Among nonsmokers, this rate was 8.1 percent. ***Women who smoked during pregnancy were 1.6 times more likely to deliver a low birth-weight baby*** (the Odd Ratio for LBW).

Mahoning County Births	2,481
Births to Smokers	463 (18.7%)
Low Birth Weight (LBW) Births	219 (8.8%)
LBW Births to Smokers	56 (12.1%)
LBW Births to Nonsmokers	163 (8.1%)
Odds Ratio for LBW	1.57 (95% CI = 1.12, 2.19)*
Population Attributable Risk	8.5% (95% CI = 2.3, 15.6)*

* CI, or Confidence Interval, reflects the margin of error for these estimates

The proportion of all low birth-weight deliveries attributed to cigarette smoking during pregnancy in 2002 (the population attributable risk) was 8.5 percent. This means that about 19 of the 219 low birth-weight deliveries to Mahoning County women in 2002 – more than one in twelve - were due to this entirely preventable risk factor.

One in 12 low birth weight births and one in 13 preterm births to Mahoning County women in 2002 were attributed to tobacco use during pregnancy.

Birth certificate information also enabled us to estimate the proportion of preterm deliveries (less than 36 weeks gestation) that was attributable to cigarette smoking during pregnancy. Among women who reported smoking during pregnancy in 2002, the rate of preterm delivery was 17.7 percent. Among nonsmokers, this rate was 12.3 percent. Women who reported smoking during pregnancy were 1.5 times more likely to deliver prematurely.

The proportion of all preterm deliveries in Mahoning County attributable to cigarette smoking in 2002 (the population attributable risk) was 7.5 percent. This means that about 25 of the 331 preterm deliveries to Mahoning County women in 2002 – one in 13 premature babies – were due to tobacco use during pregnancy.

Preterm Births	331 (13.3%)
Preterm Births to Smokers	82 (17.7%)
Preterm Births to Nonsmokers	249 (12.3%)
Odds Ratio for Preterm Birth	1.53 (95% CI = 1.15, 2.03)
Population Attributable Risk	7.5% (95% CI = 2.6, 13.0)

In this analysis we have highlighted the large effect that maternal cigarette smoking has on pregnancy outcomes in Mahoning County. *Smoking may be the single most important preventable risk factor for low birth weight and preterm babies.* Community organizations promoting early and adequate prenatal care should insist that pre-conceptual education about smoking risks and prenatal smoking cessation counseling and support are universal components of quality perinatal health services.

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