Smoking during pregnancy in Iowa, 2007-15

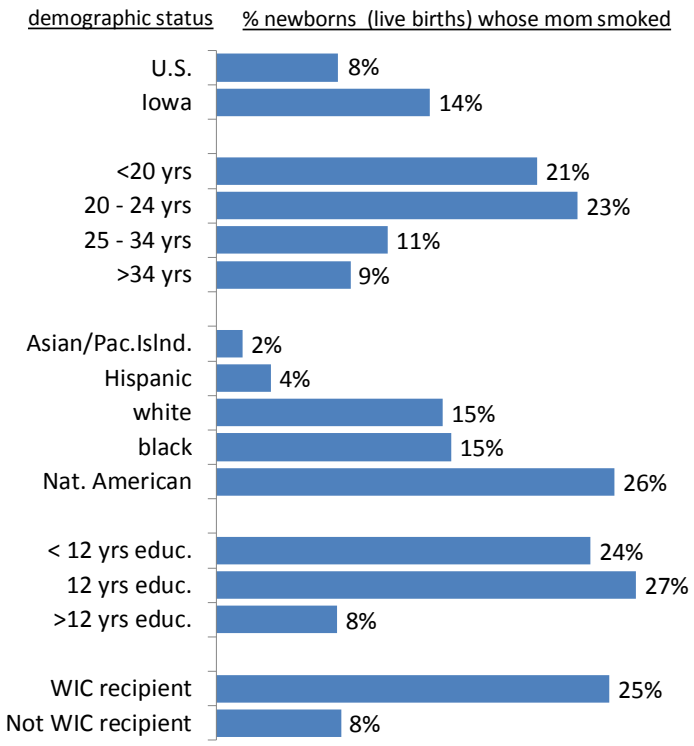
Background: Newborns of moms who smoke cigarettes during pregnancy are more likely to be born prematurely and to be of low birth weight when full-term. They are more likely to experience respiratory distress, sudden infant death syndrome, cleft palate, idiopathic mental retardation, attention deficit/hyperactivity disorder and childhood cancer.[1, 2]

Women who smoke during pregnancy are more likely to experience spontaneous abortion (miscarriage) and placental abruption (premature detachment of placenta) and other complications of pregnancy. [1, 2] **Unfortunately, cigarette smoking is more common among women of childbearing age than among women who are older.**

Of the 39,467 newborns born in Iowa in 2015, 18 percent (7,242) had moms who smoked in the three months prior to pregnancy and 14 percent (5,416) had moms who smoked at some time during their pregnancy.[3]

Effective environmental interventions (including policies such as cigarette taxes and the Iowa Smokefree Air Act), media campaigns that discourage smoking and health care systems interventions (Quitline Iowa, health care provider counseling and referral) are in place to help women who are or may become pregnant stop smoking. These environmental and health care interventions have already helped reduce the smoking rate among women of childbearing age. Strengthening these interventions will help Iowa achieve the national *Healthy People 2020* objective of further reducing smoking rates by 2020 to no more than 1.4 percent of women giving live birth (2007 baseline: In Iowa, 18.6 percent new mom smoking rate; in the U.S. , 11.6 percent).[3, 4]

Percent of newborns with moms who smoked during pregnancy by socio-economic status, Iowa, 2015[3]



The Iowa maternal smoking rate of 14 percent in 2015 was 75 percent higher than the national rate of 8 percent in 2015. The Iowa rate was higher than the national rate for all years 2011 forward.[5]

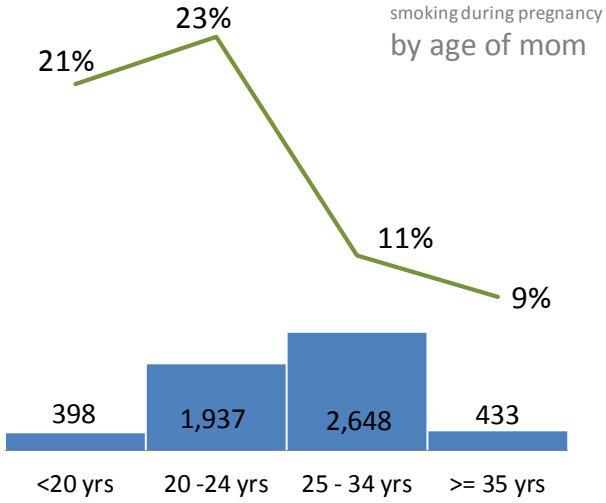
In 2015, among newborns whose moms were 24 years of age and younger, maternal smoking rates were more than twice that of newborns whose moms were older than 24 (see chart).

Significant racial differences in maternal smoking rates were seen. Maternal smoking was many times more common among newborns whose moms were Native American compared to newborns whose moms were Asian or Hispanic (26 percent vs. 2 percent and 4 percent, respectively).

Less education was also closely associated with increased risk of maternal smoking during pregnancy. Newborns whose moms had a high school education or less experienced maternal smoking at rates three times that of newborns whose moms had at least some college.

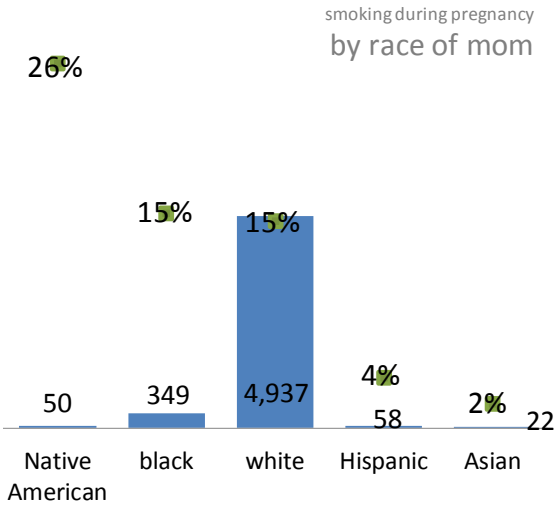
Likewise, among newborns whose moms were of low-income (as indicated by enrollment in the Supplemental Nutrition Program for Women, Infants and Children (WIC)), maternal smoking rates were three times higher than among newborns whose moms were not enrolled in WIC.

Number and percent of newborns with moms who smoked during pregnancy by maternal age, race and educational attainment, Iowa, 2015[3]



About 23 percent of newborns whose moms were age 24 or younger experienced maternal smoking.

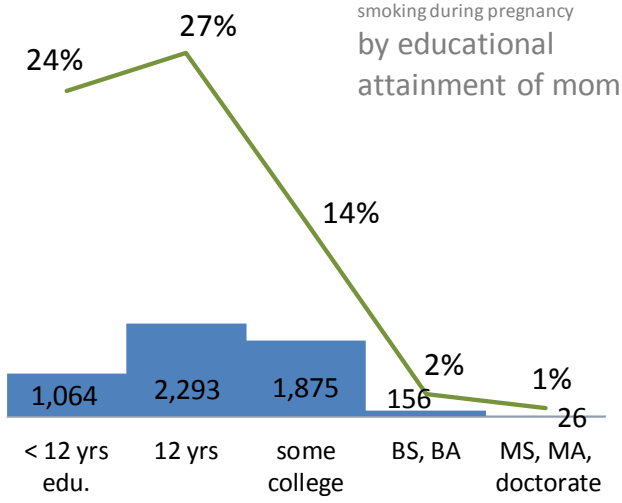
Of all births to women who smoked, 43 percent were to women age 24 and younger (2,335) and 57 percent were to women age 25 years and older (3,081 births).



Newborns of Native American women were most likely to have had moms who smoked during pregnancy (26 percent).

Newborns whose moms were black or who were white experienced a 15 percent rate of maternal smoking, which was somewhat higher than newborns in Iowa overall (14 percent of newborns statewide had moms who smoked during pregnancy).

Of the 5,416 newborns whose moms smoked, 4,937 (91 percent) were born to women who were white.



Moms with no more than high school education were the most likely to smoke.

In Iowa in 2015, of the 5,416 live births (newborns) to moms who smoked, only 3 percent (182) were to women with four years or more of college, while 1,875 (35 percent) were to women with some college and 3,357 (62 percent) were to women with no more than a high school diploma.

Low birth weight is more common when moms smoke[3]

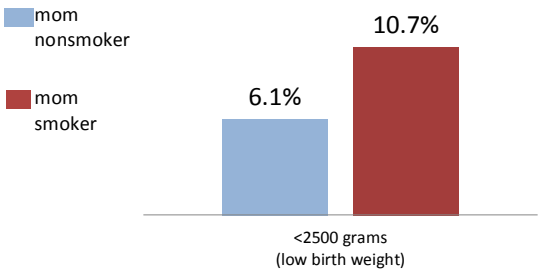
Smoking cigarettes is associated with poor pregnancy outcomes, as smoking during pregnancy harms both the mother and her baby.[5]

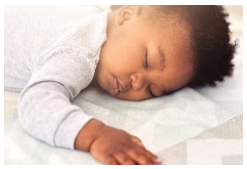
Prenatal smoking is the principal cause of low birth weight in the U.S., accounting for at least 20 to 30 percent of cases of low birth weight (<2500 grams or <5.5 pounds).[5]

Babies born with lower-than-average birth weight are more likely to experience acute infections and long-term effects such as poor cognitive performance on achievement tests and decreased physical growth.[5]

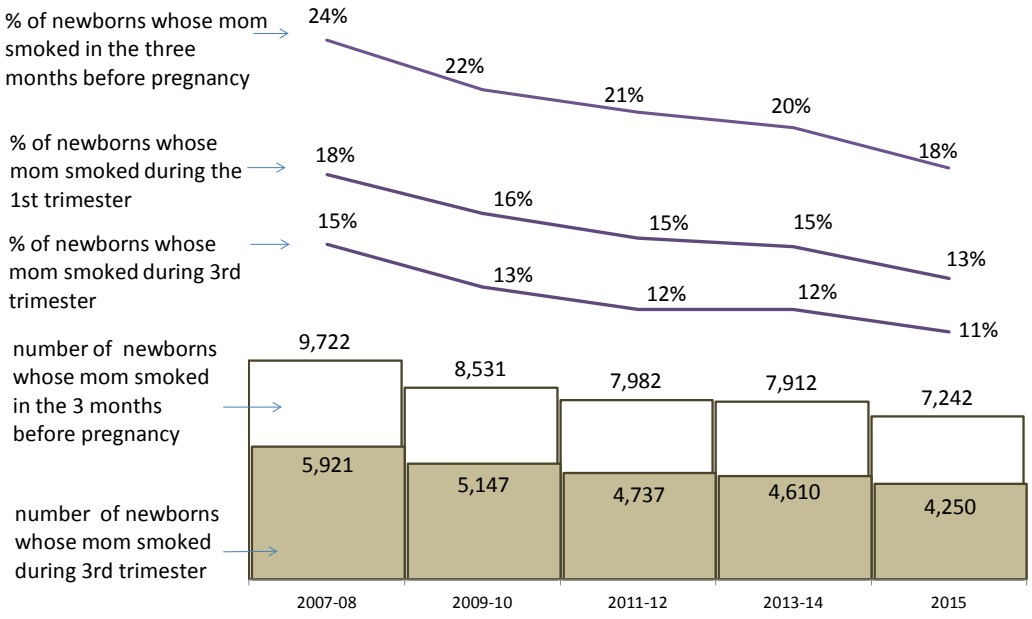
In 2015 in Iowa, newborns whose moms smoked during pregnancy were more likely to be of low birth weight than were newborns of moms who did not smoke (10.7 percent of the newborns with moms who smoked were low birth weight compared to 6.1 percent of newborns with moms who did not smoke).

Among new moms who smoked/did not smoke, percent of newborns who were low birth weight





2007-2015 Trends in: Percent and number of newborns whose moms smoked before or during pregnancy, Iowa



Smoking rates among new moms before pregnancy and during pregnancy declined between 2007-08 and 2015.

For all years shown, smoking rates were lower during pregnancy than before pregnancy.

Trends in the smoking quit rate among new moms: Between 2007-08 and 2015, the smoking quit rate among new moms who used cigarettes in the three months before pregnancy or in the first or second trimester but who quit by the start of the third trimester increased slightly from 40 percent (2007-08) to 42 percent (2015).

Notes:

1. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General, CDC, Office of Smoking and Health, 2014.
2. Tobacco use and pregnancy, CDC, 2013: http://www.cdc.gov/reproductivehealth/TobaccoUsePregnancy/
3. Iowa vital records, birth certificates, Iowa Department of Public Health (IDPH), 2007-15. National Vital Statistics System, 2015. CDC Wonder online: http://wonder.cdc.gov/ National average rate is based only on states using standardized 2003 birth certificate form that year.
4. Healthy People 2020, Maternal, Infant and Child Health objective 11.3: https://www.healthypeople.gov/node/3492/data-details
5. Causes and implications of low birth weight infants, 2000: http://www.stanford.edu/group/virus/herpes/2000/primaryf.htm