Tobacco Use During Pregnancy Among SoonerCare Mothers

OKLAHOMA State Department of Health

OKLAHOMA Health Care Authority

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Introduction:

Smoking during pregnancy has been associated with many adverse health outcomes both during and after pregnancy. Studies suggest that smoking during pregnancy can cause tissue damage in the unborn baby, particularly in the lung and brain, and may be a cause for cleft lip (1, 2). Tobacco use during pregnancy is one of the important predictors of poor outcomes, such as placenta previa and abruption, miscarriage, ectopic pregnancy and premature rupture of membranes (3). Mothers who smoke during pregnancy are more prone to deliver early and have low birth-weight babies (1). Tobacco use during pregnancy accounts for an estimated 5–8% of preterm deliveries, 13–19% of term deliveries with low birth weight, 23–34% cases of sudden infant death syndrome (SIDS) and 5–7% of preterm-related infant deaths (4, 5).

Pregnancy encourages women to quit smoking. Nearly 55% of women who smoked prior to pregnancy quit during the last three months of pregnancy (6). Screening for tobacco use and cessation counseling are evidence-based prenatal care practices that are required by most health care plans. Tobacco use cessation at any point in pregnancy benefits the mother and her fetus; however, cessation before 15 weeks gestation is most beneficial (7). Tobacco use is preventable, and cessation is one of the best ways to protect the mother and her newborn from many lifelong health conditions.

According to CDC Pregnancy Risk Assessment Monitoring System (PRAMS), in 2015, nearly 8.8% of mothers among 34 participating states reported using tobacco during pregnancy. From 2016–2018, 25.9% of Oklahoma mothers reported ever smoking in the last two years and out of these, 12% of mothers reported smoking during pregnancy (in the last three months of pregnancy). Each year, SoonerCare

(Oklahoma's Medicaid program) covers approximately 56% of live births in Oklahoma, and tobacco use among pregnant women poses both an economic and a health burden for the SoonerCare population. This report aims to provide a brief overview of the tobacco use during pregnancy among SoonerCare mothers.

Methods:

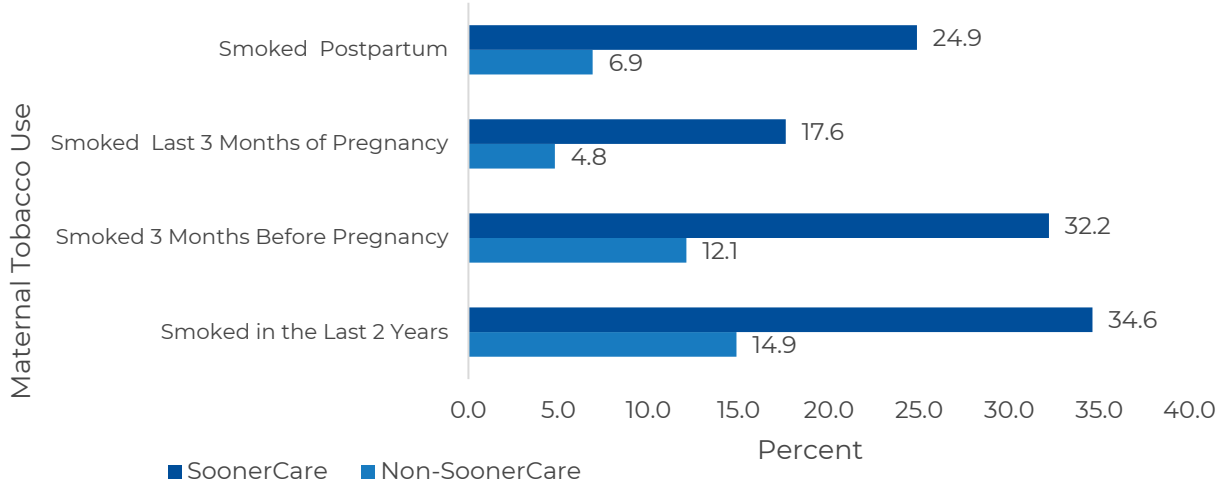
The Oklahoma PRAMS data for the years 2016–2018 was used for this report. SoonerCare mothers were identified using birth certificate numbers from the SoonerCare – Birth Certificate Linkage Project. For this report, non-SoonerCare refers to mothers who were not covered by SoonerCare. For the period 2016–2018, PRAMS sent out 8,545 surveys to new mothers. Out of this, 5,590 mothers were identified as covered by SoonerCare for a weighted percent of 56.3. Tobacco use is assessed in PRAMS by using a set of three questions; asking mothers about cigarette use in the past two years, three months before their latest pregnancy, and the last three months of that pregnancy. For this report, we consider tobacco use during the last three months of pregnancy. Tobacco use, smoking during pregnancy and smoking during the last three months of pregnancy are interchangeably used in this report. Smoking during pregnancy was analyzed by select maternal characteristics and chronic conditions present prior to and during pregnancy. Comparisons to non-SoonerCare mothers were excluded due to the small number of records available for stratified analyses. Prevalence rates were presented along with Chi-square tests, which was used to assess differences in the prevalence of tobacco use among indicators.

Results:

At the time of the PRAMS survey, nearly 35% of mothers covered by SoonerCare reported ever using tobacco in the last two years, compared to 15% reported by non-SoonerCare mothers. Among the SoonerCare mothers who smoked in the past two years, 32% reported smoking three months before pregnancy and 18% reported smoking in the last three months of pregnancy. Among non-SoonerCare mothers, 12% reported smoking three months before pregnancy and 5% during the last three months of pregnancy. Postpartum, 25% of SoonerCare mothers and 7% of non-

SoonerCare mothers reported smoking (Figure 1). The differences observed in smoking rates among SoonerCare and non-SoonerCare mothers were all statistically significant at $p < 0.05$. Additionally, SoonerCare mothers who smoked prior to pregnancy had more difficulty quitting during pregnancy compared to non-SoonerCare mothers. More than 54% of SoonerCare mothers and 39% of non-SoonerCare mothers who reported smoking three months before pregnancy continued to smoke in the last three months of pregnancy (data not shown).

Figure 1. Prevalence of Tobacco use Among SoonerCare and Non-SoonerCare Mothers



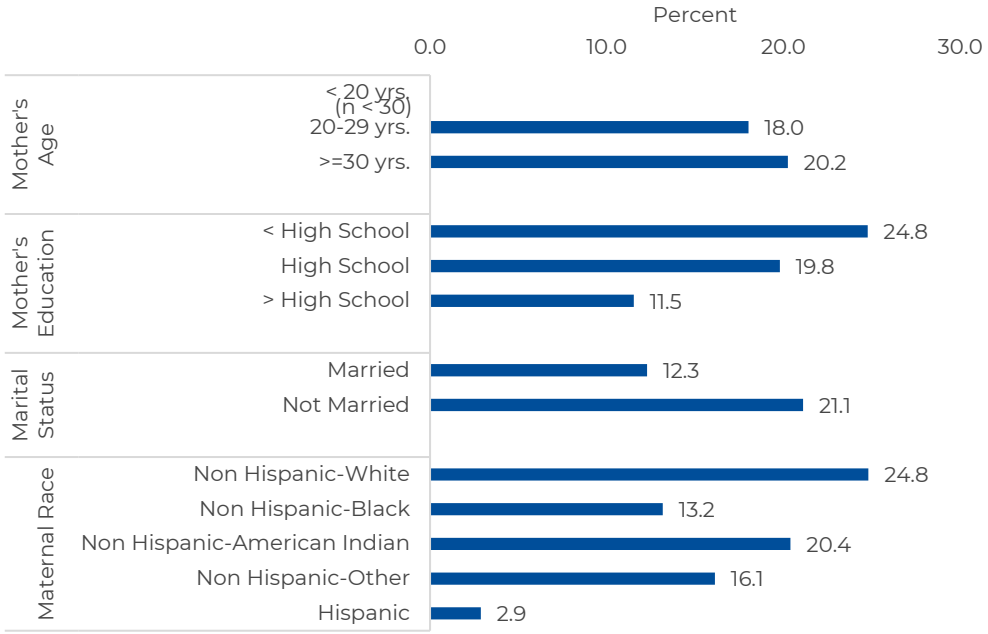
The prevalence of smoking during pregnancy broken down by the demographic characteristics of SoonerCare mothers is displayed in Figure 2. Studies indicate women with lower socioeconomic status were more likely to smoke before and during pregnancy (4). The results from this analysis concurs with these studies. There were significant differences in smoking rates among the different age groups of the mothers ($p < 0.05$), the smoking prevalence was highest among women ages 30 years and older (20.2%).

This study also found significant differences in smoking prevalence by race and Hispanic origin. The prevalence was highest among non-Hispanic White mothers

(24.8%) and lowest among Hispanic mothers (2.9%). This is contrary to prior research and those trends seen in the general U.S. population (8, 9, 10). In the general U.S. population, smoking prevalence remains highest among the American Indian/Alaska Native population and lowest among the Asian population.

Figure 2 presents the smoking prevalence by education attained by mother. Smoking prevalence was lowest among women who had education higher than high school (11.5%) and the highest prevalence was among mothers with less than high school education (24.8%). Likewise, smoking during pregnancy was more prevalent among mothers who were not married compared to married mothers (21.1% vs. 12.3%).

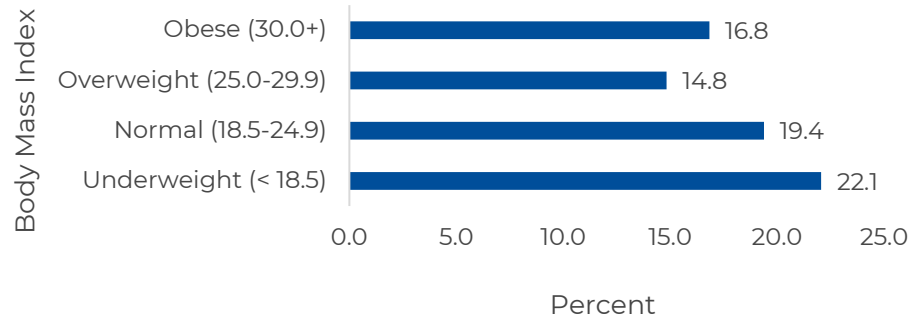
Figure 2. Prevalence of Tobacco Use by the Demographic Characteristics of SoonerCare Mothers



n < 30 – sample size is less than 30

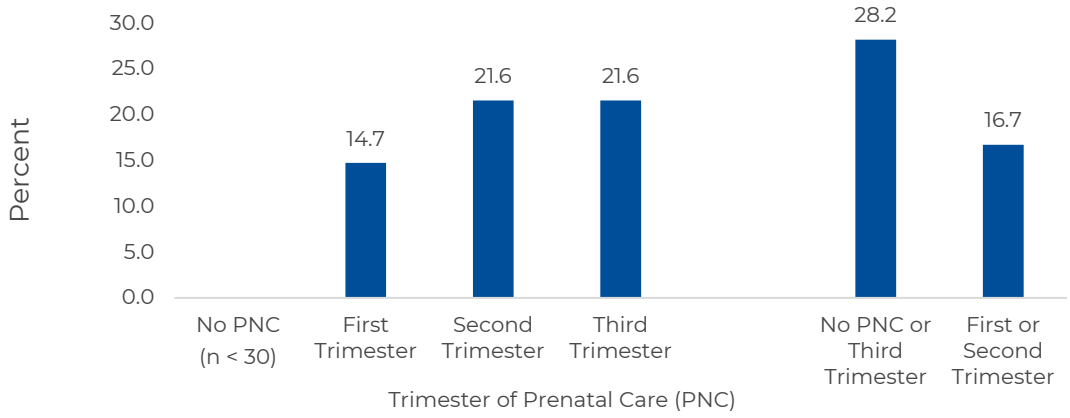
The mother's pre-pregnancy body mass index is known to play a role in how smoking impacts delivery outcomes (11). Among SoonerCare mothers, smoking was most prevalent among underweight mothers (22%) and the lowest prevalence rate was among overweight mothers (15%) (Figure 3).

Figure 3. Prevalence of Tobacco Use by the Body Mass Index of SoonerCare Mothers



Interventions prior to and during pregnancy are shown to positively influence smoking cessation in women (12). However, research indicates low-income women on Medicaid often delay entering prenatal care (13). In this study, SoonerCare mothers who initiated prenatal care in the third trimester (late), or had no prenatal care, had the highest prevalence of smoking during pregnancy (28.2%), while mothers who initiated care in the first trimester had the lowest smoking prevalence (14.7%) (Figure 4).

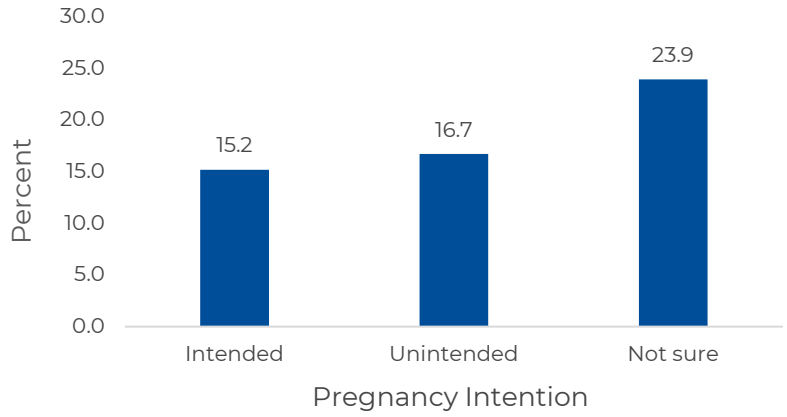
Figure 4. Prevalence of Tobacco Use During Pregnancy by the Trimester of Prenatal Care of SoonerCare Mothers



n < 30 – sample size is less than 30

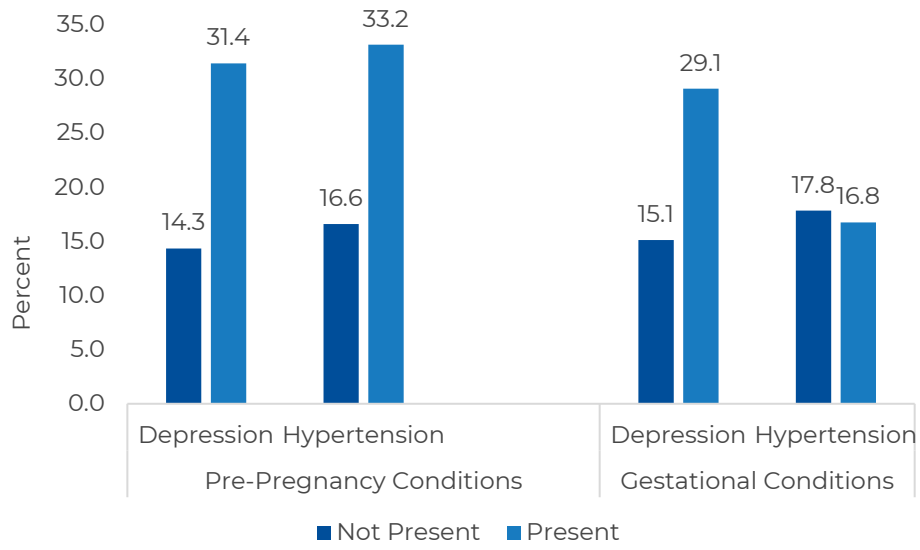
Studies using PRAMS data suggest early smoking cessation interventions lead to greater change in smoking rates, regardless of pregnancy intention, although change is more difficult for women with unwanted pregnancies (14). In Oklahoma, SoonerCare mothers who were not sure they wanted to become pregnant had the highest smoking prevalence (23.9%) compared to mothers with an intended and unintended pregnancy (Figure 4).

Figure 5. Prevalence of Tobacco Use During Pregnancy by the Pregnancy Intention of SoonerCare Mothers



The association observed in this report, of smoking with the presence of chronic conditions in mothers prior to and during pregnancy, is consistent with published studies (15, 16). Mothers with hypertension or depression had significantly higher prevalence of smoking during pregnancy, except for hypertension that started in pregnancy (gestational). About 1 in 3 SoonerCare mothers with depression prior to or during pregnancy smoked during the last three months of pregnancy. Prevalence of smoking was highest among mothers with pre-pregnancy hypertension (33.2%). However, there appears to be lower smoking prevalence among mothers with gestational hypertension (Figure 5).

Figure 6. Prevalence of Tobacco Use During Pregnancy among SoonerCare Mothers with Health Conditions



Discussion

Evidence from this report concurs with studies that indicate smoking rates are higher among women of lower socioeconomic status. Findings are also consistent with prior research that early access to prenatal care can have a significant impact in reducing smoking rates among mothers. Increased access to health care services through Medicaid may encourage women to access cessation services. The prevalence of chronic conditions, especially hypertension and depression among SoonerCare mothers who smoke during pregnancy, highlights the need for an increased focus on cessation efforts.

During pregnancy, smoking rates among SoonerCare members are more than four times the rate of non-SoonerCare mothers. There are many reasons behind high smoking prevalence among SoonerCare mothers the relatively short span mothers are enrolled in Medicaid; lack of knowledge about available tobacco cessation benefits; barriers to accessing cessation counseling and medications; and the absence of family support to quit smoking.

Over the years, Medicaid programs across the U.S. expanded their tobacco cessation initiatives to reduce smoking. The Oklahoma Health Care Authority (OHCA), the Medicaid administrator in Oklahoma, has implemented several smoking cessation initiatives that have shown promising results. From 2010–2012, OHCA partnered with the Oklahoma Tobacco Settlement Endowment Trust (TSET) to fund and administer an initiative to facilitate in-person and hands-on technical assistance and education related to smoking cessation through the obstetric providers. OHCA expanded its partnership with TSET to help support the SoonerQuit initiative through a mass media campaign. This statewide marketing campaign was designed to decrease the tobacco use rate among women of childbearing age, particularly those with low socioeconomic status. This campaign featured Oklahomans sharing their personal stories of how they successfully quit smoking. In 2013, Oklahoma was one of four states selected by the Centers for Medicare & Medicaid Services to participate in a three-year mobile health pilot project with Text4baby. Text4baby is a free mobile health messaging service for pregnant women and caregivers of infants under one that sends important health and safety information. In 2014, OHCA modified its Medicaid enrollment application to allow newly enrolled SoonerCare members the ability to opt in to receive text messages. This change resulted in an unprecedented number of pregnant women and caregivers of infants to begin receiving mobile health messages through Text4baby. SoonerCare expanded its benefits so members can have access to a robust package of tobacco cessation benefits including provider counseling during routine healthcare visits, as well as an array of smoking cessation pharmacotherapies. In 2017, 32.0% of SoonerCare mothers who smoked used counseling or medication when trying to quit. Specifically, 23.7% of mothers used counseling, 6.7% used medications, and 1.6% used both counseling and medication to quit smoking during pregnancy (17).

The Oklahoma Tobacco Helpline provides robust services for pregnant women. The Helpline quit coaches proactively reach out to clients, which has the psychosocial effect of making people feel like they are starting the quitting process with a support network. Pregnant women and others receive one-on-one quit counseling from a quit coach, specialized materials, encouragement to adopt a tobacco-free home

policy and referrals to community resources. Clients who want sustained assistance receive telephone-based coaching throughout their quitting process, during and after pregnancy. In SFY 2020, the Oklahoma Tobacco Helpline reported 28,547 tobacco users registered for services. Of those registered, 323 tobacco users who were also pregnant accessed the Helpline for assistance quitting smoking and more than half (approximately 178) of pregnant users were SoonerCare members.

The Affordable Care Act of 2010 required Medicaid programs to cover tobacco cessation counseling and medications for pregnant women without cost sharing. Oklahoma recently passed legislation to expand Medicaid. This expansion presents an opportunity to promote further the cessation programs SoonerCare has in place for expectant mothers. Research indicates that Medicaid expansion had positively affected smoking prevalence in both pregnant women and the general population (18, 19, 20). Maternal smoking during pregnancy remains a public health concern, therefore it is imperative that public health and the Medicaid programs collaborate with health care providers to inform and educate women about the importance of smoking cessation.

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Additional Information

The Oklahoma State Department of Health, an equal opportunity employer and provider, issued this publication. A digital file has been deposited with the Publications Clearinghouse of the Oklahoma Department of Libraries. Copies are available for download at www.health.ok.gov.

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