PREGNANCY RISK ASSESSMENT MONITORING SYSTEM
A survey for healthier babies in New Jersey

Maternal Depression and Pregnancy Outcomes (November 2019)

NJ PRAMS is a joint project of the New Jersey Department of Health (NJDOH) and the Centers for Disease Control and Prevention (CDC). Information from PRAMS is used to help plan better health programs for NJ mothers and infants. One out of every 50 mothers are sampled each month, when newborns are 2-6 months old. Survey questions address their feelings and experiences before, during, and after pregnancy. The PRAMS sample design oversamples smokers and minorities. Data are weighted to give representative estimates of proportions in specific categories and of actual persons. Over 20,000 mothers are included between 2002-2017 with an average response rate of 70%.

Table 1. Mothers Who Reported Depression Before or During Pregnancy, or PPD Symptoms by Maternal Characteristics in New Jersey, NJ PRAMS 2016-2017

Maternal Characteristics	Depression Before Pregnancy (%)	Depression During Pregnancy (%)	PPD Symptoms (%)
All	8.4	6.4	11.9
Race/Ethnicity			
White, NH	11.4	7.1	7.4
Black, NH	7.6	8.6	18.3
Hispanic	6.0	6.1	10.4
Asian, NH	4.3	*	26.3
Age Group			
18-29 years	9.4	7.9	14.4
30+ years	8.0	5.5	9.8
Education			
Less than HS	7.0	6.7	13.5
HS +	8.5	6.3	11.7
Pre-pregnancy Insurance			
Private	9.0	5.9	10.5
Medicaid	9.3	8.2	15.6
Uninsured	5.1	5.7	11.5
Insurance During Pregnancy			
Private	9.6	6.0	9.4
Medicaid	9.0	7.5	13.0
Uninsured	*	*	11.1

*Value suppressed as n<10

Depression Prior to Pregnancy

Between 2016-2017, NJ PRAMS shows 8.4% of mothers reported having depression prior to pregnancy (Table 1). Pre-pregnancy depression was more prevalent among mothers who were White, non-Hispanic (NH) (11.4%), aged 18-29 years (9.4%), who had a high school education or more (8.5%), and who utilized Medicaid prior to pregnancy (9.3%) (Table 1).

Depression During Pregnancy

In NJ, 6.4% of mothers reported having depression during pregnancy (Table 1). Depression during pregnancy was more prevalent among mothers who were Black, NH (8.6%), aged 18-29 years (7.9%), and who utilized Medicaid during to pregnancy (7.5%). There was no

Mental health is critical, especially during pregnancy and after childbirth. Many women experience psychiatric disorders in the childbearing years (18-44 years). According to the Centers for Disease Control and Prevention (CDC), the rate of pregnant women with a depression diagnosis at delivery increased by seven times from 2000 to 2015. Also, one in nine women experience postpartum depression (PPD) symptoms[1]. Psychiatric disorders not only affect the mother but have also been linked to poor birth outcomes such as preterm birth (PTB) (<37 completed weeks gestation), low birth weight (LBW) (<2,500 grams)[2], and a decrease in breastfeeding initiation[3]. According to New Jersey (NJ) birth certificate data, 9.5% of all births were preterm with 8% being of a low birth weight in 2017.

Table 2. Mothers Who Reported Depression Before and During Pregnancy by Maternal Characteristics in New Jersey, NJ PRAMS 2016-2017

Maternal Characteristics	%
All	48.2
Race/Ethnicity	
White, NH	47.8
Black, NH	62.2
Hispanic	50.8
Asian, NH	11.3
Age Group	
18-29 years	47.5
30+ years	50.8
Education	
Less than high school	55.2
High school +	47.7
Pre-pregnancy Insurance	
Private	44.3
Medicaid	56.5
Uninsured	49.9
Insurance During Pregnancy	
Private	44.3
Medicaid	49.9
Uninsured	*

*Value suppressed as n<10

significant difference of depression during pregnancy based on educational attainment. To add, nearly half (48.2%) of mothers who reported having pre-pregnancy depression also reported experiencing depression during pregnancy (Table 2). PRAMS data shows depression during both of these times was more prevalent among mothers who were Black, NH (62.2%), aged 30 years or greater (50.8%), who had less than a high school education (55.2%), and who utilized Medicaid prior to and during pregnancy (56.5% and 49.9%, respectively).

PPD Symptoms

Approximately 12% of NJ PRAMS mothers reported experiencing PPD symptoms (Table 1). PPD symptoms were more prevalent among mothers who were Asian, NH (26.3%), aged 18-29 years (14.4%), who had less than a high school education (13.5%), and who utilized Medicaid prior to and during pregnancy (15.6% and 13%, respectively).

Table 3. Birth Outcomes Among Mothers Who Reported Depression Before Pregnancy by Maternal Characteristics in New Jersey, NJ PRAMS 2012-2017

Maternal Characteristics	PTB (%)	LBW (%)	Breastfeeding Initiation (%)
All	12.7	9.5	79.8
Race/Ethnicity			
White, NH	12.4	10.5	78.4
Black, NH	12.8	11.3	76.8
Hispanic	13.5	7.3	83.8
Asian, NH	*	*	92.1
Age Group			
18-29 years	8.4	9.3	78.6
30+ years	17.8	10.3	80.3
Education			
Less than HS	10.7	*	69.1
HS +	12.7	10.1	81.5
Pre-pregnancy Insurance			
Private	14.3	9.6	84.6
Medicaid	10.6	8.1	70.1
Uninsured	*	*	79.8
Insurance During Pregnancy			
Private	14.1	9.2	83.7
Medicaid	11.9	11.9	72.2
Uninsured	*	*	81.6

*Value suppressed as n<10

Pregnancy Outcomes – Preterm Birth, Low Birth Weight, Breastfeeding Initiation

Between 2012-2017, NJ PRAMS data shows that of all births among mothers who reported having depression prior to pregnancy, nearly 13% were preterm (Table 3). PTBs were more prevalent among mothers who were Hispanic (13.5%), aged 30 years or more (17.8%), who had a high school education or more (12.7%), and who utilized private insurance prior to and during pregnancy (14.3% and 14.1%, respectively).

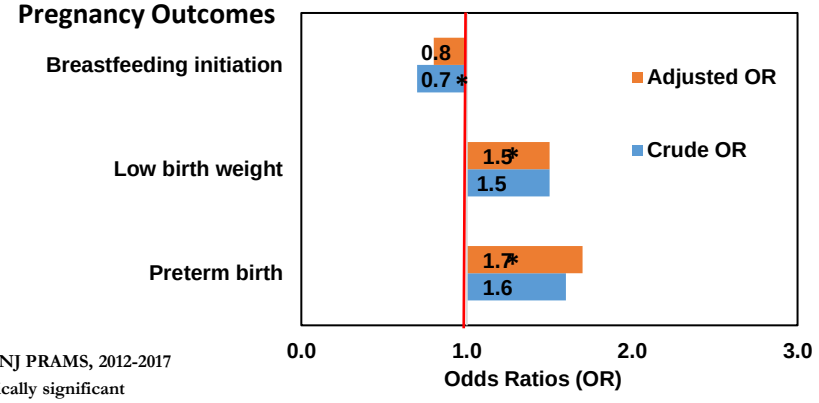
Approximately 10% of all births among mothers who reported having depression prior to pregnancy were LBW. LBW babies were more prevalent among mothers who were Black, NH (11.3%), aged 30 years or more (10.3%), who had a high school education or more (10.1%), and who utilized private insurance prior to pregnancy (9.6%) but Medicaid during pregnancy (11.9%).

The overall prevalence of breastfeeding initiation among mothers who reported having depression before pregnancy was nearly 80%. Breastfeeding initiation was less prevalent among mothers who were Black, NH (76.8%), aged 18-29 years (78.6%), who had less than a high school education (69.1%), and who utilized Medicaid prior to and during pregnancy (70.1% and 72.2%, respectively).

Further Analysis

According to NJ PRAMS data, mothers who reported experiencing depression before pregnancy were nearly twice (OR=1.7; 95% CI: 1.2, 2.4) as likely to experience a PTB compared to mothers who did not report depression prior to pregnancy (Figure 1). They were also 50% (OR=1.5; 95% CI:1.0, 2.3) more likely to deliver a baby of a LBW and 20% (OR=0.8; 95% CI: 0.6, 1.0) less likely to initiate breastfeeding after adjusting for race/ethnicity, age group, educational attainment, pre-pregnancy insurance payor type, and prenatal care insurance payor type.

Figure 1. Association Between Pre-pregnancy Depression and Pregnancy Outcomes



Source: NJ PRAMS, 2012-2017
* Statistically significant

Agenda for Action

There is a lack of management for mental health conditions such as depression. Considering NJ's concern with the birth outcomes discussed here, improved screening of depression for all women of reproductive age should be required. In addition to requiring screening for depression, further identification of depression symptoms needs to be addressed with healthcare providers. Currently, NJ abides by a law (N.J.S.A. 26: 2-175 et seq.) that directs prenatal care providers to provide education about PPD and licensed health care professionals providing postnatal care to screen new mothers for PPD symptoms prior to discharge from the birthing facility and at the first few postnatal checkup visits. Through NJ's three consortia, the following programs concerning perinatal mood disorders are implemented:

The Perinatal Mood Disorders Initiative (Partnership for Maternal & Child Health of Northern New Jersey)

- Free and confidential support via the **Emotional Health Phone Support Program**.
- In-person support groups for new mothers at risk of developing PPD and/or anxiety and those who are pregnant using the ROSE (**R**each **O**ut, stay **S**trong, **E**ssentials for mothers of newborns) curriculum.
- Maternal mental health educational programs for medical providers and community-based professionals.
- Assistance to hospitals and community-based organizations with PPD screening protocol implementation.

The Perinatal Mood Disorder Phone Follow-Up Program (Central Jersey Family Health Consortia)

- Assists women identified to be at risk and links them to local and state resources.
- Bilingual staff is available for Spanish-speaking women.
- Goals are to expand community resources and support hospitals and other health care providers' efforts in providing information to women and their families concerning available support and treatment resources.

Postpartum Wellness Initiative (PWI) for South Jersey (Southern New Jersey Perinatal Cooperative)

- PWI Warmline - Free and confidential phone call back service where women can access PWI services.
- *MomMoodBooster* - Secure and confidential web-based support intervention for women who are experiencing mild to moderate PPD. Free of charge to anyone who lives in southern NJ.
- Support Groups – In-person and online support groups for women at risk for developing perinatal mood disorders.
- Web-based Edinburgh Postnatal Depression Scale (EPDS) Screening – Available at health care provider locations throughout the region. The PWI team reaches out to women whose EPDS score is 9 or above.

Resources

NJDOH, Division of Family Health Services, Maternal Child Health Services - www.nj.gov/health/fhs/maternalchild/
Partnership for Maternal & Child Health of Northern NJ - https://partnershipmch.org/
Central Jersey Family Health Consortium - https://www.cjfhc.org/index.php/en/
Southern New Jersey Perinatal Cooperative - https://www.snjpc.org/
March of Dimes - http://www.marchofdimes.org/

Sources

[1] "Depression During and After Pregnancy." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 7 Oct. 2019, https://www.cdc.gov/reproductivehealth/features/maternal-depression/index.html#targetText=Depression during and after pregnancy is common and treatable,experience symptoms of postpartum depression.

[2] Dunkel Schetter, Christine, and Lynlee Tanner. "Anxiety, depression and stress in pregnancy: implications for mothers, children, research, and practice." *Current opinion in psychiatry* vol. 25,2 (2012): 141-8. doi:10.1097/YCO.0b013e3283503680

[3] *Maternal Mental Health*. 20 Feb. 2015, https://www.who.int/mental_health/maternal-child/maternal_mental_health/en/. Accessed 7 Oct. 2019.

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