

Overweight and Obesity in Michigan: Surveillance Report Series



Breastfeeding Chapter 2009

*Michigan Department
of Community Health*



Jennifer M. Granholm, Governor
Janet Olszewski, Director

Michigan's CDC funded Nutrition, Physical Activity and Obesity Program is in the process of developing the "Overweight and Obesity in Michigan" surveillance report. The report will contain four chapters, Physical Activity, Nutrition, Breastfeeding and Obesity. Each chapter will be released individually with the final report completed and released by the summer of 2009.

The fourth released chapter, Breastfeeding, contains surveillance data on breastfeeding initiation, duration and barriers.

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Introduction:

Breastfeeding has many health and personal benefits for mothers and babies and is consequently recommended as the best start for life. Breast milk is easy to digest and contains antibodies that can protect infants from bacterial and viral infections.¹ Exclusive breastfeeding is sufficient to support optimal growth and development for approximately the first 6 months.²

Some studies suggest that infants who are breastfed have decreased rates of sudden infant death syndrome in the first year of life, type 1 and type 2 diabetes, lymphoma, leukemia, and Hodgkin's disease. Research also indicates that women who breastfeed may have lower rates of certain breast and ovarian cancers.²

Since 1981 there have been a number of studies that have provided varying degrees of support that breastfeeding reduces the risk of obesity among children. Three reports, which combined data from many studies over the past 30 years, suggest a 15% to 30% reduced risk for obesity for children who were breastfed. This relationship was stronger for exclusive breastfeeding than for breastfeeding combined with formula; the longer the babies continued to breastfeed, the less likely they were to become obese.³

Michigan collects data on breastfeeding primarily from two surveys. The first is the Pregnancy Risk Assessment Monitoring Survey (PRAMS) which surveys women that had a live birth within the year. The second is the Pediatric Nutrition Surveillance System (PedNSS) which collects information on the health and nutrition of participants in federally-funded maternal and child health programs. In Michigan PedNSS is populated exclusively by participants of the state's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), see Appendix D for more information.

Key Findings:*Women*

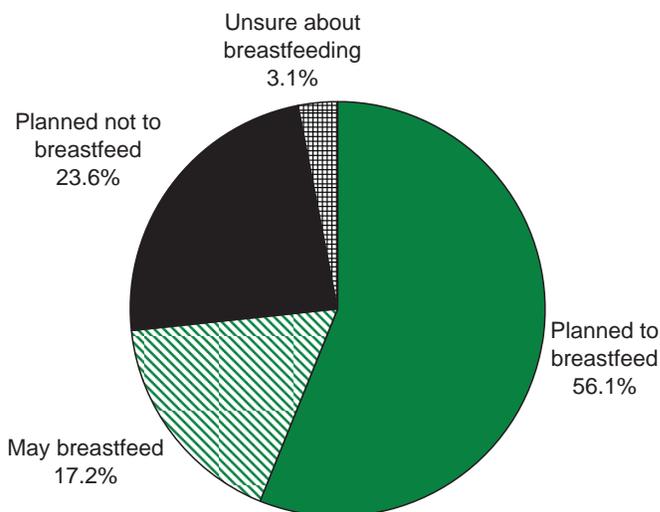
- In 2006, 56.1% of Michigan women who had a live birth reported that they planned to breastfeed before their delivery. Almost 70% of women who had a live birth initiated breastfeeding.
- White, non-Hispanics had a higher prevalence (71.7%) than black, non-Hispanics (55.7%) for breastfeeding initiation.
- The prevalence of breastfeeding initiation increased with education and income.
- Women whose BMI was at a healthy weight had a higher prevalence of ever breastfeeding compared with women whose BMI was higher.
- The average duration of breastfeeding was 6.8 weeks among women who breastfed for longer than a week but discontinued before being surveyed.

Low-Income Children

- The overall prevalence of WIC participants that were breastfed was 49.0%.
- In 2007, 62.3% of participants stopped breastfeeding within 10 days.

Women who had a live birth:

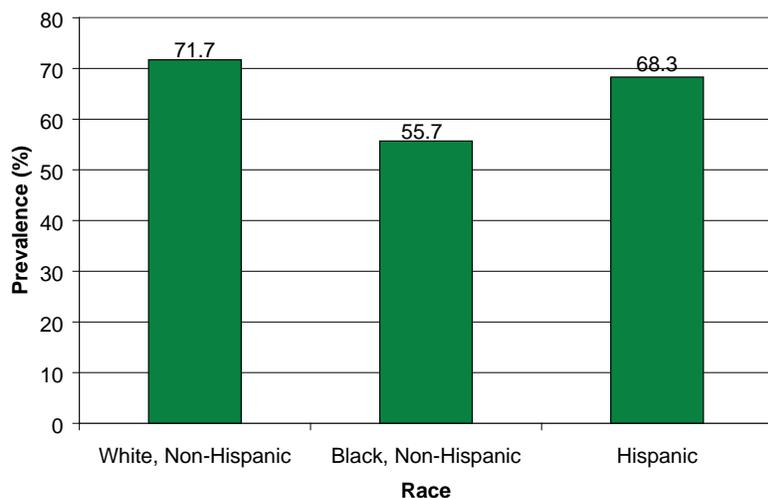
Figure 1. Pre-delivery breastfeeding plans, Michigan 2006.



Source: Michigan Pregnancy Risk Assessment Monitoring System (PRAMS)

- In 2006, 56.1% of women planned to breastfeed and an additional 17.2% thought they might breastfeed.
- The prevalence of women who reported they thought they were going to breastfeed prior to delivery increased with educational attainment.
- In 2006, 81.7% of women reported that during at least one of their prenatal care visits a health professional spoke with them about breastfeeding their baby.

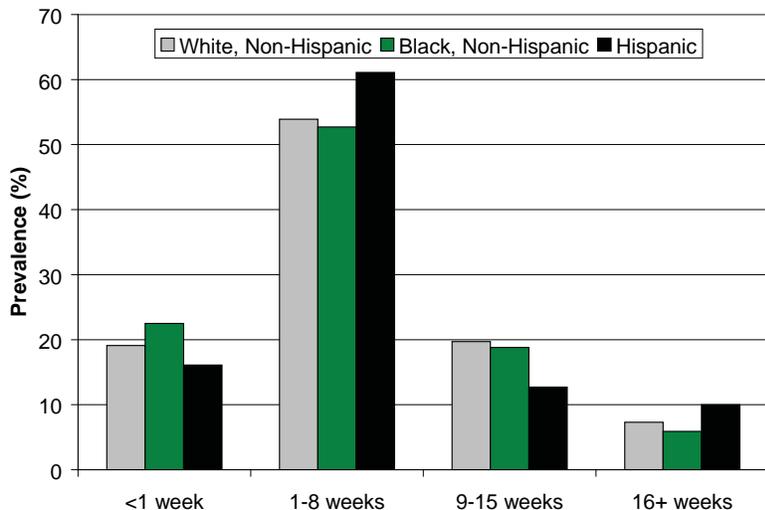
Figure 2. Prevalence of breastfeeding initiation among women by race/ethnicity, Michigan 2006.



Source: Michigan Pregnancy Risk Assessment Monitoring System (PRAMS)

- In 2006, 69.2% of women reported they had initiated breastfeeding. This is below the 2005 national rate (74.2%) and the Healthy People 2010 goal (75%).
- White, non-Hispanics reported the highest prevalence (71.7%) and black, non-Hispanics the lowest (55.7%).
- The prevalence of breastfeeding increased with education and income, 2004 to 2006 survey data.
- Women whose pre-pregnancy BMI was a healthy weight range reported the highest prevalence of ever breastfeeding (74.1%) compared with women whose BMI was higher.

Figure 3. Breastfeeding duration among women who breastfed for longer than a week, but discontinued before surveyed, by maternal race/ethnicity, Michigan 2006.



Source: Michigan Pregnancy Risk Assessment Monitoring System (PRAMS)

- In 2006, Michigan women who breastfed for longer than a week, but discontinued before being surveyed, on average breastfed for 6.8 weeks.
- Breastfeeding duration did not significantly vary by race/ethnicity.
- Women with a college degree or higher breastfed their infants for the longest period (7.6 weeks).
- Women aged 18 and younger breastfed for an average of 4.2 weeks. Women in the age group 25 to 29 years, where the highest proportion of births occur, averaged 6.7 weeks of breastfeeding.

Figure 4. Barriers to breastfeeding continuation among women who breastfed longer than a week, but discontinued breastfeeding before surveyed, Michigan 2004 to 2006.

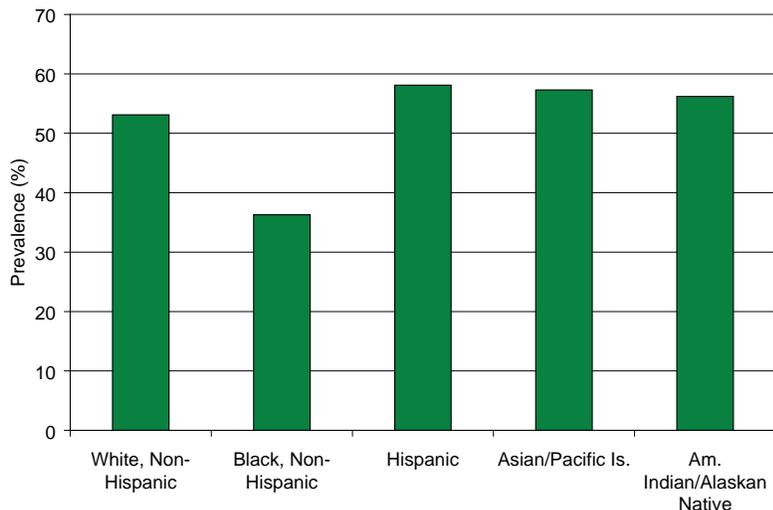


Source: Michigan Pregnancy Risk Assessment Monitoring System (PRAMS)

- The most frequently reported barriers to breastfeeding were that the mother didn't think she was producing enough milk (38.9%) and that the milk did not satisfy the infant (38.0%).

Low-Income Infants:

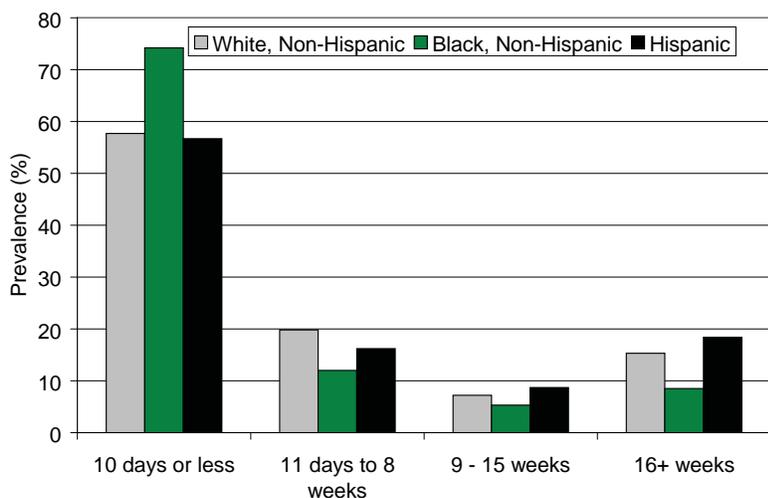
Figure 5. Prevalence of breastfeeding initiation among WIC participants, by race/ethnicity, Michigan 2007.



Source: Michigan Pediatric Nutrition Surveillance

- In 2007, the overall prevalence of breastfeeding among infants in the WIC system was 49.0%.
- The racial group with the lowest prevalence of ever being breastfed was black, non-Hispanic infants (36.3%).
- Almost 45% of PedNSS infants were never breastfed.
- There were no differences in breastfeeding initiation by mothers' prenatal BMI status.

Figure 6. Breastfeeding duration among WIC participants, by race/ethnicity, Michigan 2007.



Source: Michigan Pediatric Nutrition Surveillance

- In 2007, 62.3% of the participants stopped breastfeeding within 10 days.
- The majority of infants, among all race-ethnic groups, stopped breastfeeding within 10 days, with the highest rate among black, non-Hispanic infants (74.2%).
- There were no differences in breastfeeding duration by mothers' prenatal BMI status.

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Appendix A. Healthy People 2010 goals related to breastfeeding.

(Objective 16-19) Increase the proportion of mothers who breastfeed their babies to 75% in early postpartum period, 50% at 6 months and 25% at 1 year. Also, increase the proportion of mothers who breastfeed exclusively to 40% through 3 months and 17% through 6 months.

Source: *Healthy People 2010*, Chapter 16.

Appendix B. List of abbreviations.

- BMI..... Body Mass Index
- CDC Centers for Disease Control and Prevention
- MDCH..... Michigan Department of Community Health
- PedNSS Pediatric Nutrition Surveillance System
- PRAMS Pregnancy Risk Assessment Monitoring System
- WIC..... Women, Infants and Children

Appendix C: Methods**Prevalence**

Prevalence is the proportion of individuals in a population who have the disease at a point in time or during a given time period. It is often used to describe the health burden on a given population. Prevalence is computed by dividing the number of existing cases at a particular point or period in time by the total population from which the cases came. It is often multiplied by 100 and expressed as a percent. In this report, prevalence estimates are generated in the analysis of data from the Pregnancy Risk Assessment Monitoring System and the Pediatric Nutritional Surveillance System.

$$\text{Prevalence} = \frac{\text{Number of existing cases of disease}}{\text{Total population}}$$

For example, 25.1% of adults in Michigan do not participate in leisure-time physical activity. This is the prevalence of no leisure-time physical activity. The number of survey respondents who reported no leisure-time physical activity was divided by the total number of respondents that were asked the question. This proportion is also weighted to adjust for the survey design and nonresponse, so that the results can be used to represent the population.

Appendix D: Data Sources

Name: Pregnancy Risk Assessment Monitoring System

Acronym: PRAMS

Basic Purpose and History: PRAMS is a surveillance program that is conducted in collaboration with the Centers for Disease Control and Prevention and state health departments. The purpose is to collect data on postpartum mothers regarding maternal attitudes and experiences before, during and after pregnancy. Michigan first administered the survey in 1988.

Data Collection Process: A mixed method data collection procedure is used consisting of mail surveys with telephone follow-up for non-respondents. Women are sampled between 2 and 6 months postpartum. Using birth certificates, women are randomly selected with oversampling of specific populations with historically lower response rates.

Population Included: The selected respondent must be a female Michigan resident who had a live birth in that survey year.

Additional Information: Visit CDC's PRAMS website (<http://www.cdc.gov/prams/>) for more information about the PRAMS and national data for comparison.

Name: Pediatric Nutrition Surveillance System

Acronym: PedNSS

Basic Purpose and History: PedNSS is a national surveillance systems administered by the CDC. It is used by public health professionals to collect, analyze, and disseminate information on the health and nutrition of participants in federally-funded maternal and child health programs. In Michigan, PedNSS is populated exclusively by participants of the state's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

Data Collection Process: In Michigan, information about each participant is recorded at the local WIC agency and verified by a nurse, registered dietitian, nutritionist, or competent professional authority. The information goes directly into the mainframe computer system (M-TRACX), is extracted quarterly, and sent to the CDC. There the information is edited and crosschecked for accuracy. BMI values are calculated from the child's last reported height and weight values and their age is based on their whole year at the time of reporting.

Population Included: Four eligibility criteria must be met for persons to enroll in the Michigan WIC Program: 1) be a pregnant or postpartum woman, infant, or child (under the age of five); 2) be a resident of Michigan; 3) have an income at or below 185% of the Poverty Income Guideline or participate in another state-administered program that utilizes the same income guideline; and 4) be classified by a health professional as "nutritionally at risk." Annually, Michigan WIC serves an estimated 60,000 women and 220,000 infants and children under the age of five years old.

Additional Information: For more information about WIC and PedNSS visit www.michigan.gov/wic and <http://www.cdc.gov/PEDNSS/>.

Appendix E: References

1. American Dietetic Association. “Practice Applications from the Surgeon General: Mothers and Children Benefit from Breastfeeding.” *J Am Diet Assoc.* 2008; 108(7):1106.
2. American Academy of Pediatrics. “Policy Statement: Breastfeeding and the Use of Human Milk.” *Pediatrics.* Feb 2005; 115(2).
3. U.S. Department of Health and Human Services and Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity and Obesity. Research to Practice Series, No. 4. “Does Breastfeeding Reduce the Risk of Pediatric Overweight?”

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