MARYLAND PRAMS
Pregnancy Risk Assessment Monitoring System

Focus on

Oral Health

Among Maryland Women Giving Birth 2004-2007

December 2009

"Oral health is essential to the general health and well-being of all Americans … however not all Americans are achieving the same degree of oral health. A 'silent epidemic' of oral disease is affecting our most vulnerable citizens…"

Oral Health in America: A Report of the Surgeon General 2000

Oral Health and Pregnancy

Oral health refers to the care of one's mouth, teeth, gums, jaws, palates, tongue, lips and supporting structures. Getting regular dental care is fundamental to the maintenance of not only good oral and general health but may also have an impact on maternal and infant wellbeing.

Chronic oral infections such as dental caries, gingivitis, and periodontal disease may have some association with early pregnancy loss, preeclampsia, preterm birth, and low-birth weight. However the mechanism for this association and its exact nature remain unclear.

Prevalence of Dental Cleaning Before and During Pregnancy

Responses to the following PRAMS survey question about dental cleaning were analyzed:

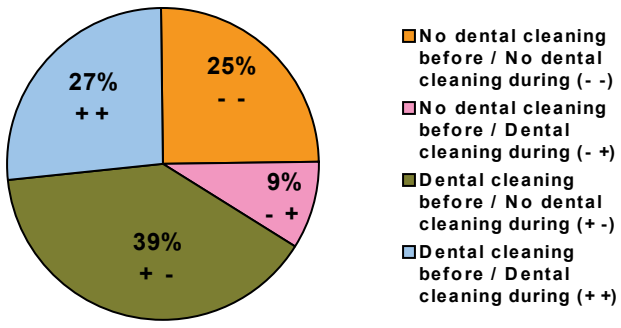
Table 1. PRAMS Survey Question and Responses

Q: When did you have your teeth cleaned by a dentist or dental hygienist?

		Responses:
• Before my most recent pregnancy	Yes/No	*66.5% Y / 33.5% N*
• During my most recent pregnancy	Yes/No	*37.8% Y / 62.2% N*
• After my most recent pregnancy	Yes/No	*28.3% Y / 71.7% N*

Among Maryland mothers who delivered during 2004-2007, 67% reported having dental cleaning prior to becoming pregnant and 38% reported having dental cleaning during pregnancy (Table 1). We excluded the postpartum group from analysis because surveys were completed at varying intervals after delivery (from 2 to 9 months) making negative responses more likely if survey was completed sooner after delivery.

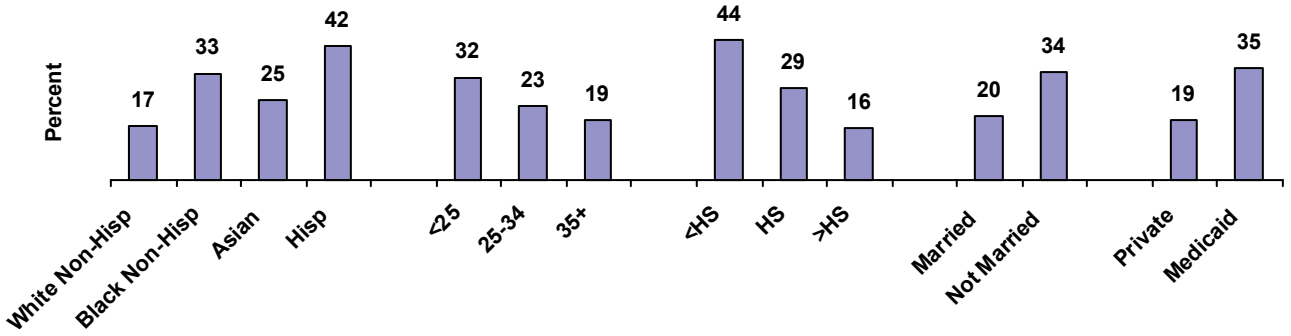
Figure 1. Dental Cleaning Behaviors of Maryland Mothers Before and During Pregnancy



Responses were grouped into four categories (Figure 1). A comparison was made between two of these groups: (a) mothers who most likely obtained routine dental care and reported that they had their teeth cleaned both before and during pregnancy (++, 27%) and, (b) mothers who reported not having their teeth cleaned before and during pregnancy (- -, 25%).

Lack of Routine Dental Cleaning

Fig 2. Percentage of Mothers Who Did Not Have Teeth Cleaned Before and During Pregnancy



Disparities between different populations were prominent for oral health care. Lack of teeth cleaning by a dental hygienist or dentist before or during pregnancy was most prevalent among women who were Hispanic (42%), Black (33%), not high school graduates (44%), and users of Medicaid for delivery (35%) (Figure 2).

Table 2. Factors Associated With Dental Cleaning Before and During Pregnancy

Factor	Teeth Cleaned Before and During Pregnancy n=1,718, (++) %	Teeth not Cleaned Before and During Pregnancy n=1,275, (- -) %
Preconception		
Daily multivitamin use	45	23*
Unintended pregnancy	26	50*
Previous low birth-weight infant	7	19*
History of partner abuse, physical	2	8
During the Year Before Delivery, stressors		
Job loss	6	16*
Separation or divorce	4	13
Homelessness	1	7
Jail time (self or partner)	1	6
Unpaid bills	9	31*
Pregnancy, unwanted by partner	5	13
Arguments, increased w. partner	17	29*
Moved to new address	22	40*
During pregnancy		
Smoking, last 3 months	5	14*
Initiation of prenatal care, first trimester	89	65*
Diabetes, chronic or gestational	8	9
Hypertension	11	11
Postpartum		
Breastfed infant, 10+ weeks	63	49*
Depression, reported	8	17*
Birth Outcomes		
Low-birth weight infant (<2500 grams)	7	9
Premature delivery (<37 weeks)	18	19

* (++) and (- -) values differ significantly (p<0.05)

Many unhealthy behaviors and factors such as unintended pregnancy, late initiation of prenatal care, lack of vitamin intake, job loss, unpaid bills, and depression were significantly more prevalent among women who did not have dental cleaning before and during pregnancy (- -) than among women who did (++) (Table 2). The prevalence of diabetes and hypertension was similar between the two groups.

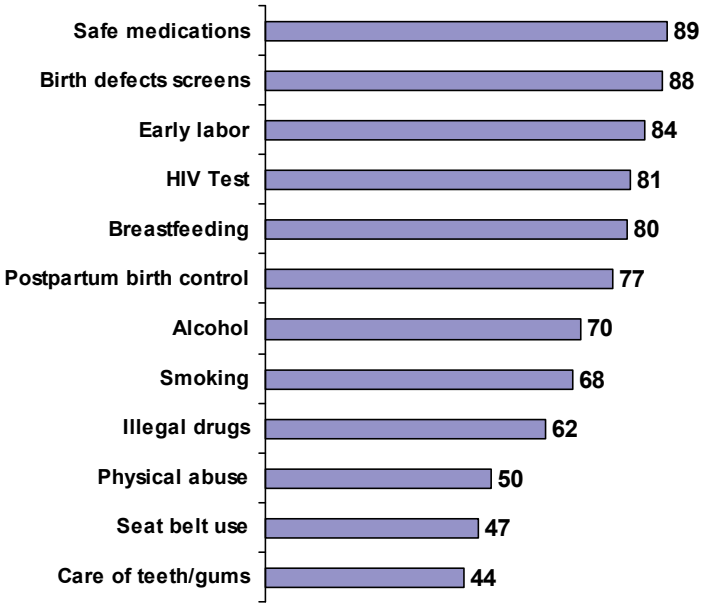
Birth Outcomes

Women who did not have their teeth cleaned before and during pregnancy (- -) had nearly the same prevalence of premature births (19% vs. 18%), and low birth weight infants (9% vs. 7%). These differences were not statistically significant.

Oral Health Counseling

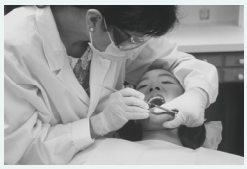
From a list of selected topics, care of the teeth and gums was the topic that was least reported to have been discussed during prenatal visits by a healthcare worker (Figure 3). Despite the high percentage of women who had not had their teeth cleaned during pregnancy (62%) (Table 1), only 44% of women reported that they received counseling about oral health (Figure 3).

Figure 3. Percentage of Mothers Reporting Topics Discussed During Prenatal Care Visits



Comments from PRAMS mothers:

"I had 3 [teeth] that needed to come out but I couldn't afford to pay for it. I was in pain the whole 9 months of pregnancy."



"A dentist...told me I could not have any work done [while pregnant with twins]. One twin passed away at 74 days old. Three months before my last pregnancy, I miscarried."

"During my pregnancy I could not see a dentist because no one accepted my insurance. Now I need 4 crowns."

Summary

Our findings indicate that dental care among pregnant women remains largely an issue of access and insurance coverage. Mothers who were Hispanic, Black, with fewer years of education, or no private health insurance had the highest rate of non teeth cleaning before and during pregnancy. These women with poor preventive oral health care were also burdened with many stressors and pre-pregnancy risk factors such as unpaid bills, postpartum depression, prior low-birth weight infant and unintended pregnancy.

Nationally, findings for a relationship between oral health problems and maternal health have been mixed. Our analysis did not show a significant association between oral health and birth outcomes (premature delivery, low-birth weight infant) or medical disorders during pregnancy (diabetes, hypertension). However, multiple associations between lack of oral health care and unhealthy pregnancy factors or behaviors were revealed. There is a strong sense that oral health is an essential part of maternal child health and general health.

Since pregnancy is often the only time that many low-income women have access to medical and dental care (Medicaid covers all routine preventive and diagnostic oral health services during pregnancy), greater efforts should be made to educate, detect and treat oral health problems during this period. In Maryland, 62% of women reported that they did not get their teeth cleaned during pregnancy. Most women, and perhaps some dentists, are probably not aware that routine dental cleanings should continue every six months—even during pregnancy.

Oral health promotion should be a part of the health policy agenda. The prenatal visit is an opportune time to integrate oral health into a comprehensive preventive health plan for women.

PRAMS Methodology

Data included in this report were collected through the Pregnancy Risk Assessment Monitoring System (PRAMS), a surveillance system established by the Centers for Disease Control and Prevention (CDC) to obtain information about maternal behaviors and experiences that may be associated with adverse pregnancy outcomes.

In Maryland, the collection of PRAMS data is a collaborative effort of the Department of Health and Mental Hygiene and the CDC.

Each month, a sample of 200 Maryland women who have recently delivered live born infants are surveyed by mail or by telephone, and responses are weighted to make the results representative of all Maryland births.

The results for this report are based on the responses of 6,361 Maryland mothers who delivered live born infants between 1/1/2004 and 12/31/2007 and were surveyed two to nine months after delivery. Response rate for this study period was 71%.

Limitations of Report

The wording of the oral health questions restricted our ability to determine approximate timing of dental cleaning prior to pregnancy and any presence of oral disease at the time of dental cleaning.

The Maryland PRAMS data is retrospective and therefore subject to recall bias. It is also based on the mother's perception of events and may not be completely accurate.

This report presents only basic associations. Unexamined interrelationships among risk factors could explain some of the findings described in this report.

Resources

American Dental Association
www.ada.org

CDC Division for Oral Health
www.cdc.gov/oralhealth

Maryland DHMH Office of Oral Health
http://fha.maryland.gov/oralhealth

National Maternal and Child Oral Health Resource Center
www.mchoralheatlh.org

Oral Health America
www.oralhealthamerica.org

MARYLAND PRAMS Pregnancy Risk Assessment Monitoring System

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Martin O'Malley, Governor; Anthony G. Brown, Lieutenant Governor; John M. Colmers, Secretary

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