

PRAM-O-GRAM

Fact Sheet Series: Number 7, 2008

Steps to Reduce Stress During Pregnancy

According to the March of Dimes, stress reduction for an expecting mother begins with acknowledging that she is stressed and identifying situations that are causing her stress. Additional techniques a pregnant mother can use include:²

- Eating regularly and nutritiously and drinking lots of water.
- Resting when she can and when her body needs it.
- Exercising, with her health-care provider's approval.
- Relaxing by meditating, listening to music or writing in a journal.
- Resisting any urges to drink alcohol, smoke or take herbal products or drugs (not prescribed by her health-care provider).
- Staying away from stressful people and stressful situations when possible.
- Talking to her partner, friends, relatives, health-care professionals, employer, or a trained counselor or other mental health professional.
- Going to all her prenatal care appointments.



Prenatal Stress and Complications

Pregnancy can be a stressful time for many expecting mothers. However, some women who are pregnant experience very high levels of stress, such as the loss of a job, the death of a loved one, or divorce.

Unfortunately, high levels of stress can have negative consequences on the developing fetus. Problems can include “slower development, learning and attention difficulties, anxiety and depressive symptoms.”¹



Research shows that, under normal conditions, the hormone cortisol that is released in the body as a reaction to stress “has a beneficial function in supplying instant energy, but it has to be in small amounts and for a short period of time.” In conditions of extreme stress, “the large amount of this hormone reaching the fetal brain can cause structural and functional changes” and “can also stimulate the release of another hormone from the placenta that will cause premature birth,” another factor affecting normal development.¹

Mothers who participated in the 2002 North Dakota Pregnancy Risk Assessment Monitoring System (PRAMS) survey, a representative sample of North Dakota mothers who gave birth in 2002, were asked questions about their experiences with various stressful events in the 12 months before their baby's birth. The majority of mothers experienced at least one stressful event in the 12 months before their baby's birth (72%), including:

- 43 percent who experienced one to two stressful events.
- 22 percent who experienced three to five stressful events.
- 6 percent who experienced six to 13 stressful events.

The most common stressful event mothers experienced was moving to a new address (36%), followed by arguing with her husband/partner more than usual (26%) and having a family member who was ill or hospitalized (26%). Additional stressful events that the mothers experienced included having someone close who died (18%), having someone close who had a bad problem with drugs/alcohol (15%), husband/partner losing a job (11%), husband/partner not wanting the pregnancy (8%), getting separated or divorced (8%), losing a job (6%), husband/partner going to jail (4%), being in a physical fight (3%), or being homeless (2%).

Having lots of bills that couldn't be paid was another common stressful event (24%). Financial issues affected many mothers, as reflected by their participation in programs designed to assist low-income people:

- 27 percent were recipients of Medicaid.
- 36 percent were recipients of WIC.
- 13 percent had household income in the previous 12 months that included Temporary Assistance for Needy Families (TANF) or other aid.
- 6 percent had household income that included unemployment benefits.

More information about the Pregnancy Risk Assessment Monitoring System (PRAMS), North Dakota PRAMS 2002 data, and the PRAM-O-GRAM fact sheets is available online at www.ndsu.edu/sdc/ndprams.htm and www.ndhealth.gov.

North Dakota mothers on prenatal stress and complications:

"To all pregnant mothers or women with other small children: DO NOT take any physical or mental abuse from your spouse or partner. You don't deserve it. I know it's easier said than done, but you have to protect yourself and your babies!"

"I developed gestational diabetes. I was really scared for my baby and myself at first because I didn't know how common this was. There should be more information out about this condition."

"Tell mothers ... to be checked for preeclampsia early so they can be treated for it. I lost a baby due to preeclampsia because the doctor I went to thought there was really nothing there. I had it so severe that I could have died myself."

"I think they should have more programs that will help assist single mothers with bills and stuff like that."



Sources: Unless indicated otherwise, all data and quotes are from North Dakota PRAMS, 2002: www.ndsu.edu/sdc/ndprams.htm; 1. "Stress During Pregnancy Has Detrimental Effect On Offspring." www.sciencedaily.com/releases/2008/10/081027140724.htm; 2. "Pregnancy & Newborn Health Education Center: Stress." www.marchofdimes.com/pnhec/159_527.asp; 3. "From Mortality to Morbidity: The Challenge of the Twenty-First Century." www.amwa-doc.org; 4. "Pregnancy-Related Morbidity." www.cdc.gov/reproductivehealth/Products&Pubs/DatatoAction/pdf/rhow10.pdf

Prenatal Stress and Complications, continued

Other factors that could cause complications during pregnancy included:

- Physical abuse during pregnancy (1 in 29 mothers or 3%).
- Lack of exercise (24% had very little, 48% had sporadic exercise).
- Smoking (26% smoked in the three months before getting pregnant, 16% in the last three months of pregnancy).
- Drinking (65% drank before, 4% during).
- Weight issues (14% were underweight before becoming pregnant, 11% were overweight, 20% were obese).



The maternal mortality rate (i.e., the rate of pregnant women who died) used to be the traditional measure of a women's health during pregnancy. During the 20th century, the risk of dying due to pregnancy-related causes decreased from 850 deaths per 100,000 deliveries to eight.³ The leading cause of pregnancy-related deaths of mothers in the first trimester is ectopic pregnancy (i.e., an abnormal pregnancy occurring outside the womb), and it is the only maternal complication that is routinely monitored in the U.S.⁴

Epidemiologists now focus on maternal morbidity. Morbidity reflects a variety of pregnancy-related complications ranging from discomfort to mild, moderate, or severe complications to conditions so severe that the woman and baby are at risk of dying.³ Traditionally, morbidity has been measured through hospitalization rates. Research has shown that 22.2 out of 100 hospitalizations involving a pregnancy were not related to delivery; 14.6 out of 100 involved pregnancy complications and 7.6 out of 100 involved a pregnancy loss. In fact, "hospitalization for pregnancy-related complications is a surprisingly frequent event" that involves costs of care as well as "lost productive days, family disruption, emotional anguish, and financial strain."⁴

Three in five North Dakota mothers in 2002 experienced at least one complication during pregnancy (61%). Nearly half of these mothers visited the hospital at least once during their pregnancy (47%); 36 percent visited the hospital but stayed less than one day, 15 percent stayed one to seven days, 2 percent stayed for more than seven days, and 23 percent were advised to stay in bed for more than two days.

Women with at least one major stressful event experienced during pregnancy (see front page) had a higher prevalence of several pregnancy complications compared to women without a stressful event:

- Preterm labor (29% with, 21% without, 27% overall).
- Severe nausea/dehydration (24% with, 21% without, 23% overall).
- High blood pressure (21% with, 18% without, 20% overall).
- Kidney/bladder infection (18% with, 11% without, 16% overall).
- Vaginal bleeding (15% with, 12% without, 14% overall).
- Visited the hospital at least once during their pregnancy (50% with, 40% without, 47% overall).

Additional pregnancy complications mothers experienced included high blood sugar/diabetes (7%), premature rupture of membranes (6%), problems with the placenta (4%), and a cervix that had to be sewn shut (1%).