

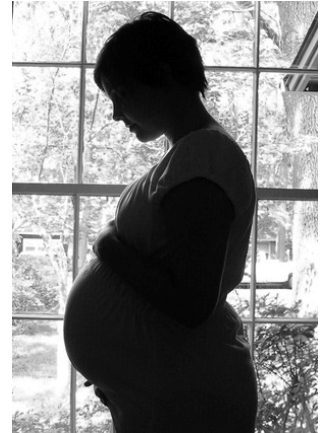


Disasters and Pregnant Women

According to the most recent census, 1 in 10 women of childbearing age is pregnant during any given year. Consequently, emergency planners must address the unique concerns of this substantial and vulnerable population.

In what ways are pregnant women more vulnerable during disasters?

When forced to leave their homes, all people find themselves without necessities, including food and water, hygiene supplies and medical care; however, these conditions are more threatening to pregnant women due to the heightened nutritional and healthcare needs that pregnancy creates. Additionally, exposure to toxins, poor conditions in shelters, mental stress and disruption of public health and clinical care can jeopardize the health and well-being of pregnant women¹. These are of even greater concern among women whose pregnancies are already high-risk due to conditions such as gestational diabetes, hypertension, or multiple gestation².



Pregnant women are particularly vulnerable to the stresses and hazards caused by disasters. For example, following Hurricane Andrew, there was a greater than 30% increase in premature births³. Adverse effects such as intrauterine growth restriction, and low birth weight have been associated with the terrorist events of 9/11, and exposure to floods, hurricanes, and earthquakes have been associated with spontaneous abortion and birth defects¹.

How can public health practitioners plan for the needs of pregnant women during disasters?

Women are pregnant and deliver babies during disasters. The March of Dimes suggests planners address the following six priorities:

- 1. Designated shelters for pregnant women and families with infants:** Designated shelters, located close to hospitals would best meet the needs of pregnant women and their families.
- 2. Basic supplies for pregnant women and infants:** Ensure that shelters have supplies such as birthing kits, nursing pads, breast pumps, maternity clothing, diapers, formula, cribs, etc.
- 3. A plan to maintain prenatal and well baby care in the aftermath of a disaster:** Plan for and publicize the location of prenatal and well baby care following the disaster.
- 4. A plan to ensure that all women have a safe place to deliver babies:** Plan to provide alternative locations for safe deliveries in case existing facilities are not available. Have medical personnel available to attend deliveries. Have a plan to address high-risk pregnancies, because some women will experience premature delivery or other complications that require medical attention.
- 5. A plan to keep families and infants together and reconnect families with infants:** Hospitals need a plan outlining where infants will be evacuated to in an emergency; mothers and infants should be evacuated together if at all possible.
- 6. Educational materials for pregnant women and families with infants:** Develop educational materials addressing the unique needs of pregnant and nursing women. For more on these needs, see page 2.

How can public health practitioners address the needs of pregnant and nursing women?

Recognize the effect that certain medications, immunizations, and toxins may have on pregnant and nursing women:

- During disease outbreaks, pregnant or lactating women may not be able to receive the same treatments or prophylaxis as other members of the population due to the potential effects on their fetuses and infants. Determine if there are feasible alternatives as part of the planning process.
- During the first trimester, when organogenesis is occurring, exposure to toxins is a particular health concern, since it can affect fetal development. Prevent unnecessary exposure to toxins among pregnant women. If exposure occurs, provide information about the effects of these exposures to women. During Hurricane Katrina, the CDC collaborated with the Organization of Teratology Information Specialists (OTIS) to counsel women and healthcare providers regarding exposures³. A similar collaboration may help your organization meet women's information needs during a disaster.

Promote breastfeeding:

- Breastfeeding is the safest source of food for infants during a disaster when water used for formula may be contaminated. Promote breastfeeding through educational materials and by providing quiet, private areas in shelters that nursing mothers can use.

Where can I learn more about disaster planning and pregnancy?

- **White Ribbon Alliance for Safe Motherhood:** The Women & Infants Service Package (WISP) Planning for Emergencies contains recommendations for meeting the needs of expectant and new mothers during disasters.
<http://www.whiteribbonalliance.org/Resources/Documents/WISP.Final.07.27.07.pdf>
- **CDC Website:** This site has information on emergency planning for pregnant women and those with young children, including links to other useful resources:
<http://www.cdc.gov/Features/Emergencies/Pregnancy-Infants.html>
- **American College of Nurse Midwives:** This webpage on giving birth "in place" lists procedures and supplies for giving birth during emergencies:
http://www.mymidwife.org/emergency_childbirth.cfm
- **Organization of Teratology Information Specialists (OTIS) website:** This site has information on exposures among pregnant and breastfeeding women, including multilingual fact sheets: http://otispregnancy.org/otis_hurricane.asp

Sources:

1. Callaghan, W.M. et al. (2007). Health concerns of women and infants in times of natural disasters: Lessons learned from Hurricane Katrina. *Maternal Child Health J.*11(4): 307-311.
2. Minnesota Emergency Readiness Education and Training. Caring for Pregnant/Birthing Women and Their Newborns During Disasters: An Introduction to the Issues.
<http://cpheo1.sph.umn.edu/meret/#a>
3. Antipova, A. (2007). Hurricane Andrew and Pregnancies in Louisiana. Baton Rouge, LA: LSU.
4. Quinn, D. et al. (2008). Addressing Concerns of Pregnant and Lactating Women After the 2005 Hurricanes: The OTIS Response. *American Journal of Maternal Child Nursing.* 33(4):235-241



YALE CENTER FOR PUBLIC HEALTH PREPAREDNESS

55 Church Street, Suite 801

New Haven, CT 06510

Phone: 203-764-9713

E-mail: cphp@yale.edu

<http://publichealth.yale.edu/ycphp>

<http://blogs.yale.edu/roller/page/prepare>

This publication is funded through CDC Cooperative Agreement #U90/CCU124251-02. Its contents are the sole responsibility of the authors and do not necessarily reflect the views of the CDC.

Mission: As part of a national network of Centers for Public Health Preparedness that are funded by the Centers for Disease Control and Prevention (CDC), the Yale Center for Public Health Preparedness, based at the Yale School of Public Health, works to ensure that frontline public health workers are prepared to respond to public health emergencies including natural disasters, acts of terrorism, and disease

The purpose of this newsletter is to provide preparedness information to public health professionals.

If you have suggestions for future newsletter topics or to comment on preparedness issues, please e-mail us at cphp@yale.edu

To subscribe to this newsletter, please send an email to cphp@yale.edu with "public health" in the subject line.