Emergency Preparedness in Obstetrics

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Question 1:

Incorporating the Johns Hopkins General Preventative Medicine Residency emergency preparedness curriculum into obstetrics and gynecology residencies will train our future obstetricians in disaster management. Are there any obstetrics-specific disaster training continuing medical education or online courses that a busy obstetrician who did not go through this curriculum can access?

Response from Drs. Haeri and Marcozzi:

Yes, there are many online courses available for clinicians. One central reference for many online programs is contained at the Uniformed Services University Center of Disaster Medicine and Public Health. The “Compendium of Disaster Health Courses” contains general disaster preparedness courses at no cost, and may be accessed at the following link: http://ncdmph.usuhs.edu/Documents/NCDMPH_Compendium_V1.pdf.

Additionally, the American College of Obstetricians and Gynecologists (ACOG) released a valuable reference, “Committee Opinion No. 555: Hospital Disaster Preparedness for Obstetricians and Facilities Providing Maternity Care” (see Obstet Gynecol 2013;121:696–9).
Other, valuable online resources include that of the California Hospital Association (http://www.calhospital.org/sites/main/files/file-attachments/howtotrainobunits_2_up.pdf), Stanford University’s 20-minute overview of obstetric disaster planning (http://obgyn.stanford.edu/community/disaster-planning.html), and the New York State Department of Health’s Health Emergency Preparedness Program (http://iroquois.org/userfiles/HPPPedObToolkit.pdf).

Question 2:

Is there benefit, beyond that achieved with the current Joint Commission requirements, to development of regional integrated emergency management plans, and identifying and equipping some hospitals for specialization in disaster management and integration with emergency response systems? Similarly, is there benefit to assembling regional teams of experts in obstetric disaster management within these regions that would be called to stand-up command center(s) in the event of regional or local disasters?

Response from Drs. Haeri and Marcozzi:

Yes, planning at the regional level is critical to optimal disaster response. The Hospital Preparedness Program at the U.S. Department of Health and Human Services describes this approach as coalition building. Coalitions include public health, health care partners, emergency management, emergency medical services, and other key community partners to assist with building a resilient health system during disasters, one that can maintain continuity of operations during an event and surge if needed after an event. A key resource for this work is contained at: http://www.phe.gov/preparedness/planning/hpp/reports/documents/capabilities.pdf. A key component to community and regional planning for disasters is trained teams, including experts in obstetric disaster management. Building from this local capability, Dr. Kay Daniels’ recent publication in Obstetrics & Gynecology from July 2014 entitled “Steps Toward a National Disaster Plan for Obstetrics” describes the cornerstones to successful development of a national obstetric capability to assist with disasters at a local, regional, and national level.

Question 3:

In several other countries and in a few practices across the United States, including the Departments of Defense and Veterans Affairs, it is routine to have a pregnant patient keep a wallet-size booklet that contains her essential pregnancy information and is updated at each prenatal visit, the “pregnancy passport” (http://www.pregnancyatoz.org/1st-Trimester/Introduction/VA-DoD-Pregnancy-Passport). What are effective ways for obstetric practices to keep updated records in the hands of the patients after each prenatal visit, as this is not the current practice in the United States?

Response from Drs. Haeri and Marcozzi:

As mentioned within the section “General Disaster Preparedness for the Pregnant Woman,” patients should be provided with a summary of their care, which is updated at every visit. As you have suggested with the Departments of Defense and Veterans Affairs Pregnancy Passport, this may be done with a simple card, or via various electronic formats (eg, online patient portals). Other examples (printable) may be found by searching the Internet for “pregnancy passport card” or “pregnancy health record card.”
**Question 4:**

What measures should local perinatal shelters implement to protect pregnant women against sick contacts?

**Response from Drs. Haeri and Marcozzi:**

Protection of pregnant women and newborns is paramount during a disaster. Specific measures are dependent on resource availability (e.g., shelter space or masks), disaster type, and the specific infectious risk. In general, basic sanitation and contact minimization are helpful in protecting against infections. In certain scenarios (e.g., pandemic influenza outbreak), social distancing may be prudent. A valuable overview of measures for maternal and newborn care during disasters may be found in a publication by Pfeiffer and colleagues in *Nursing Clinics of North America* (see *Nurs Clin North Am* 2008;43: 449–67).

**Question 5:**

You mention that the pregnant woman and her family confined at home should familiarize themselves with basic complications at the time of delivery and be able to provide basic management steps. What resources (information, supplies, and equipment) do you recommend for the pregnant woman and her family preparing for these basic complications?

**Response from Drs. Haeri and Marcozzi:**

A great resource for a family to prepare for birth in place during an emergency (as mentioned in Box 3 of the article), along with possible complications is “Giving Birth ‘In Place’: A Guide to Emergency Preparedness for Childbirth” from the American College of Nurse-Midwives.

**Question 6:**

You recommend that bottle-feeding women less than 6 months postpartum attempt relactation to provide adequate nutrition for their child during times of suboptimal food safety and availability. What are some strategies and/or resources to assist women in relactating?

**Response from Drs. Haeri and Marcozzi:**

Without question, aside from the well-proven benefits of breastfeeding, encouraging and establishing breastfeeding as part of routine care, and especially in areas subject to seasonal disasters, will allow mothers to feed their newborns and infants without concern in the event of a disaster. Another important strategy includes education of the emergency response team members so that information may be disseminated to affected pregnant women. A great resource for both patients and providers may be found at the La Leche League web site (http://www.llli.org/emergency.html).

**Question 7:**

Are specific immunizations recommended for pregnant women displaced by disasters or those living in crowded conditions?

**Response from Drs. Haeri and Marcozzi:**

The risk for certain infections is likely to increase following a disaster, depending on conditions. Outside the scope of this brief answer, vaccine recommendations for obstetric patients in disasters build from an expectation...
that routine and recommended immunizations have been received. The World Health Organization conducted a thorough review of vaccination recommendations in humanitarian emergencies. This work, entitled “Vaccination in Humanitarian Emergencies: Literature review and case studies,” compares and contrasts relevant immunizations and provides a brief explanation for the vaccine’s recommended use in disasters for a population. Notably, in addition to this general guidance, tetanus vaccination is specifically recommended for pregnant women and women of child-bearing age in disasters, suggesting at least 2 doses, either tetanus toxoid (TT) or tetanus diphtheria (Td), be administered. Of note, there are infectious disease concerns for pregnant women in disasters. These include:

- Cryptosporidiosis
- Cytomegalovirus
- Enteroviruses
- Giardiasis
- Influenza
- Leptospirosis
- Lymphocytic Choriomeningitis Virus
- Measles
- Noroviruses
- Rubella
- Toxoplasmosis
- Tuberculosis
- Varicella
- Vibrio Infections
- West Nile Virus

Treatment for some of these agents is available and/or being developed and specific recommendations should be sought as they are beyond the scope of this response.

Question 8:

What resources do you recommend to help counsel women on the teratogenicity of nuclear, biological, and chemical (NBC) agents?

Response from Drs. Haeri and Marcozzi:

There are numerous valuable resources online to aid with teratogenicity counseling (some require paid subscription). These include Reprotox (www.Reprotox.org), the Organization of Teratogen Information Services (www.OTISpregnancy.org), and the Teratogen Information System (TERIS; http://depts.washington.edu/~terisweb/teris/). There are also several useful review articles relating to the NBC agents and pregnancy including “Terrorism and the pregnant woman” (see J Perinat Neonatal Nurs 2005;19:226–37) and “Implications of chemical biological terrorist events for children and pregnant women” (see MCN Am J Matern Child Nurs 2008;33:224–32).