Commentary

The Hurricane Katrina Disaster: Focus on the Hypertensive Patient

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One of the unforeseen complications of the Hurricane Katrina disaster is the number of patients with hypertension and cardiovascular disease who will be affected with problems related to uncontrolled hypertension. Hypertension is the primary cause of office visits in the United States, with higher rates of high blood pressure (BP) seen in African Americans compared with whites. There is a 1.8× greater rate of fatal stroke, 1.5× greater rate of coronary heart disease and mortality, and a 4.2× greater rate of end-stage renal disease in this population. A recent report in *The New York Times* noted that the population in areas of significant flooding was 76% black and 29% below the poverty line. The number of patients with controlled BP is unacceptably low in disadvantaged populations of Louisiana and the Gulf Coast, even without the additional condition of patients being displaced from their medication and usual sources of care.

The benefits of reducing elevated BP on major cardiovascular end points have been well established in large clinical trials. However, the levels of BP control in clinical trials have always been difficult to translate into usual outpatient medical practice where providers must work with constraints related to finances, travel, compliance with healthy lifestyle, and other concerns.

This hurricane has been a tremendous tragedy in many ways. A significant number of patients with hypertension, cardiac disease, and diabetes with limited economic resources were unable to evacuate to safety or escape the flooding through makeshift holes in their roofs. The reality remains that, within any large city, many neighborhoods continue to exist in health care delivery deserts, devoid of well-trained, certified specialists or accessible primary care. Community health centers, which were largely supported during the 1970s and 1980s, now run on restricted budgets with little or no specialty care providers or laboratory testing facilities.

A random survey of 680 adults staying in Hurricane Katrina shelters in Houston, 98% of whom were from New Orleans, was conducted September 10–12, 2005, and analyzed jointly by The Kaiser Family Foundation, *The Washington Post*, and the Harvard School of Public Health. Sixty-six percent of the evacuees surveyed reported hospitals or clinics as their main source of care, as opposed to a family doctor or primary care provider; this highlighted the lack of preventive health care in this population. Only 52% of evacuees had health insurance at the time of the hurricane, and chronic conditions such as heart disease, hypertension, diabetes, and asthma were reported by 41% of the adults surveyed. Furthermore, 29% of evacuees reported having problems in obtaining their necessary prescription drugs.

One of the keys to maintaining lower BPs in hypertensive patients is improving and expanding health literacy. An informed patient knows his/her medication regimen, including indications, dosages, and frequency. The displacement of hundreds of thousands of people and the loss of medical records due to flooding highlights the need for compact, digital medical information that patients can carry with them, facilitating the transfer of appropriate care. In a situation of planned travel, or a tumultuous unexpected displacement, the informed person with hypertension can assist new providers

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with reconstruction of their health care regimen. Clinicians, including internists, nurse practitioners, and physician assistants, should actively ensure that their patients are knowledgeable about and involved in their health care process.

As evacuees attempt to procure meals on limited income, attention must be given to dietary intake. Foods that may be attained at lower costs from fast food restaurants or at high-volume shelters can exacerbate cardiovascular conditions already unattended to due to lack of medications and inadequate nutrition. Psychologic interventions should be instituted not only to assist with emotional status, but to ensure that conditions such as hypertension, diabetes, and other cardiovascular diseases are not worsened further. Fourteen percent of evacuees surveyed in Houston shelters reported a death of a friend, neighbor, or family member by the storm or its aftermath. Fifty-three percent are separated from a member of their immediate family. Although psychosocial stress is a poorly defined variable in cardiovascular diseases and BP control, those who have endured the physical aftermath of Hurricane Katrina, in addition to the unexpected emotional toll of displacement and personal or familial loss, would benefit from psychologic interventions in coping with this huge unexpected burden.