Striving for the "New Normal": The Aftermath of International Disasters

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Abstract:

Two recent earthquakes—both disasters of great magnitude—were met with worldwide attention and international response. The 1999 Marmara earthquake in northwestern Turkey caused massive human losses and damages estimated to be in the billions of dollars, and thus achieved worldwide attention. The most recent, 2010, earthquake in the Caribbean island of Haiti garnered headline news because of its devastation. In both cases, medical and nursing response teams crossed international borders to help.

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Two recent earthquakes—both disasters of great magnitude—were met with worldwide attention and international response. The 1999 Marmara earthquake in northwestern Turkey caused massive human losses and damages estimated to be in the billions of dollars, and thus achieved worldwide attention.[1] The most recent, 2010, earthquake in the Caribbean island of Haiti garnered headline news because of its devastation. In both cases, medical and nursing response teams crossed international borders to help.

In both cases, many people were left homeless, and tent cities that housed hundreds of thousands of people were set up either by the government, private agencies, or the survivors themselves. The following excerpts give some insights into life in these camps and the role that nurses had in gathering data and practicing their profession. The first includes a report by Fusun Terzioglu on the impact of Turkey's Marmara earthquake on family health. The second examines the work of a nurse practitioner and other health care workers through a faith-based organization in Haiti.

This chapter contributes to theoretical understandings of "the new normal," a term used to describe many aspects of uncertainty in today's world, from health care, to the economy, to the

[1] Charles Scawthorn, "The Marmara, Turkey Earthquake of August 17, 1999: Reconnaissance Report." http://mceer.buffalo.edu/publications/Reconnaissance/00-0001/default.asp?sH2=-1&oH0=-1&oH1=-1&oH3=-1&oH4=-1 (accessed October 8, 2009). See also International Recovery Platform, "Marmara Earthquake, 1999." http://irp.onlinesolutionsltd.net/countries_and_disasters/disaster/26/marmara_earthquake_1999.

aftermath of disasters. The earthquake devastation, particularly in Haiti, was so great that it is highly unlikely that this country will ever return to what it was in the past. The disaster forced deep changes in all aspects of life, and practical solutions have yet to be found.[2] Nurses have important roles to play in helping survivors through the grieving process to accept "the new normal" in an uncertain world.[3]

The 1999 Marmara Earthquake—Turkey

On August 7, 1999, one of the worst natural disasters in recent decades occurred when an earthquake struck northwestern Turkey around the Izmit region. Known as the Marmara earthquake, it registered 7.8 on the Richter scale. It caused approximately 17,000 fatalities and 32,000 injuries, left an estimated 20,000 collapsed buildings, and displaced more than 250,000 people.[4] Thus, the earthquake has had a huge social impact. The fatality rate of approximately 14.3 per 1,000, depending on different provinces, was five times the usual death rate in Turkey. In addition, according to the Ministry of Education, 114,000 school-aged children were left homeless. Unemployment rates were estimated to range from 20% to nearly 50%.[5] Assessing health care needs became a primary concern.

Although tent cities in Turkey provided much-needed shelter and food, they did not offer psychosocial support, and mental health needs surfaced that could not be adequately met.[6] Terzioglu and volunteers from the Turkey Family Planning Association in Ankara, Turkey, investigated family needs at Mehmetçik Dernekkırı Tent City, established by Land Forces Command in Adapazarı Province in Turkey after the 1999 earthquake. This camp housed 2,500 people in 600 tents. It was selected as the study area because people staying there had already overcome the initial shock of the earthquake and their basic physical needs for housing, nourishment, clothing, and cleaning were being met. Land Forces Command established a well-organized system in this tent city. Tents were of two-room types that were provided with electricity and catalytic heaters. Facilities such as a library, tailor, cafe, youth center, and a health center were provided. Still, during visits to tent cities in Adapazari, the Turkey Country Office of

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[2] Vickie Taylor and Sybil Wolin, ***The New Normal: How FDNY Firefighters Are Rising to the Challenge of Life After September 11*** (New York: Fire Department Counseling Service Unit, 2002); Eric Dinallo, ***The New Normal: Everything Old Is New Again After a Decade of Quick Fixes, Fake Money, and Made-Up Rules*** (New York: John Wiley and Sons, 2010); Scott Anthony, "Constant Transformation Is the New Normal," http://blogs.hbr.org/anthony/2009/10/constant_change_is_the_new_nor.html (accessed April 12, 2010).

[3] Michael Turpin, "Getting Over the New Normal," http://www.thehealthcareblog.com/the_health_care_blog/2010/04/getting-over-the-new-normal.html (accessed April 13, 2010); Louise K. Martell, "Heading Toward the New Normal: A Contemporary Postpartum Experience," ***Journal of Obstetric, Gynecologic and Neonatal Nursing*** 30, no. 5 (2006): 496–506.

[4] Scawthorn, "The Marmara, Turkey Earthquake." See also International Recovery Platform, "Marmara Earthquake, 1999."

[5] The World Bank, "Turkey: Marmara Earthquake Assessment," http://siteresources.worldbank.org/INTDISMGMT/Resources/TurkeyEAM.pdf (accessed October 8, 2009); U.S. Technical Reconnaissance Team, "Initial Geotechnical Observations of the August 17, 1999, Izmit Earthquake," http://nisee.berkeley.edu/turkey/report.html (accessed October 8, 2009).

[6] For similar problems after other earthquakes, see A.N. Nasrabadi et al., "Earthquake Relief: Iranian Nurses' Responses in Bam, 2003, and Lessons Learned," ***International Nursing Review*** 58 (2007): 13–18; and Erum Burki, "The Pakistan Earthquake and the Health Needs of Women," http://www.odihpn.org/report.asp?id=2809 (accessed April 6, 2009).

the World Bank found that survivors identified uncertainty about their future as their heaviest psychological burden.[7]

In assessing the impact of the Marmara earthquake on family health, Terzioglu and volunteers undertook a descriptive pilot study using a 30-item questionnaire that investigated married females (***n*** = 147), married males (***n*** = 23), and single young people (***n*** = 59) living in Dernekkırı Tent City who had volunteered to take part in the study.[8] The questionnaire was designed to gather demographic data and participants' opinions about post earthquake life in areas such as sexual problems experienced after the earthquake, nutrition and hygiene habits in the camps, and contraception.[9] Interesting findings came from the adolescents in the camp. More than three-fourths explained that they could not continue their education because of physical impossibilities because their schools had been destroyed. Other reasons listed were absence of teachers and earthquake fear. Significantly, the young participants emphasized that they did not have any job to occupy their time; excess idleness led to an increase in sexual intercourse among them.

While food was sufficient and facilities provided the means to meet hygiene needs, residents' general hygiene habits suffered, as people could only bathe once a week, seldom brushed their teeth, and did not wash their hands before and after meals. Regarding sexual and urinary disorders experienced after the earthquake, one-fourth of female participants complained about painful urination, some had vaginal itching, and one-fourth of the men had an odorous and discolored discharge. More than half of the female and male participants stated that they used contraception for birth control after the earthquake, with the most commonly used methods being withdrawal and condom use.[10] Nearly a fourth of the women stated that they had sexual intercourse just because their husbands demanded it. While both women and men explained that their partners appreciated it when they did not want to have sexual intercourse, one-tenth of the women in the study reported violence associated with sexual intercourse.[11]

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[7] The World Bank, "Turkey: Marmara Earthquake Assessment."

[8] Researchers would like to have reached all family persons, but they were not able to succeed; thus they selected only persons who volunteered to take part in the study. Before the study started, people were informed via announcement system that a meeting was going to be held on family health. People who attended this meeting and willingly agreed to take part in this study were included. Participants then came to family health meetings, where field experts made speeches and answered participants' questions. For those who could not read, a face-to-face interview method was adopted.

[9] Results were analyzed with the SPSS 11.0 package program using percentage values in data analysis. Female study participants ranged in age from 25 to 34; male participants ranged from 35 to 44; and young participants ranged from 15 to 24. The majority of females (97.2%) and males (86.9%) were married and primary or secondary school graduates, while 95% of the young participants were single and high school graduates. Most (97.3%) of the study participants lived in their tents with more than five people, and generally one person in the family held employment.

[10] Turkey Demographic and Health Survey (TDHS), 2008; Hacettepe University
Institute of Population Studies, Republic of Turkey Prime Ministry State Planning Organization, European Union, Ankara, Turkey. http://www.hips.hacettepe.edu.tr/eng/tdh508/TDH2008_Main_Report.pdf. This was consistent with other findings. In Turkey, for example, 26.2% of every couple (i.e., one of each four couples) used withdrawal methods, and 14.3% used condoms. Note that the level of pregnancy with the withdrawal method is still high, at 38.1%.

[11] This was consistent with another study in Turkey, which found that 9 out of every 100 married women stated that they were forced to have a sexual relationship. See T. C. Prime Ministry, General Directorate of the Status of Women, "Domestic Violence Against Women in Turkey, Ankara, 2009," Pres in Elma Teknik, p. 50.

A central point of this study is that proper housing, adequate nutrition, safe environments, and stable occupations are important for satisfying sexuality needs to be met.[12] While the study investigated only a small number of people and thus has limitations, it highlights concepts and themes for future grounded theory or phenomenological studies.[13]

As rescue operations shift from finding survivors and meeting physical needs to giving attention to people as they resume daily activities, nurses can be helpful in many ways. Awareness about reproductive and sexual health matters should be raised among those who dwell in tent cities. Training programs should be prepared for the prevention of reproductive organ infections and the improvement of general hygiene habits. Importantly, young people should be provided with positive activities to occupy their time. Indeed, activities and programs should be developed for all survivors to create income for them and to develop their problem-solving skills as they struggle to resume their lives after such a disaster.

The 2010 Haitian Earthquake

Three weeks after Haiti's earthquake in January 2010, the country remained in shambles. Damaged and collapsed buildings and government offices in Port-au-Prince, destroyed communications services, and disrupted or ruined water and sewage lines wreaked havoc in the poverty-stricken country. Shelter needs were unprecedented. Thousands of homeless Haitians set up refugee camps in tent cities, where food and water were scarce and grief-stricken survivors wandered aimlessly among the wreckage. According to the U.S. Agency for International Development, by mid-February 230,000 people had died, 700,000 were displaced, and 511,400 refugees had departed the capital city. Altogether, over three million people had been affected.[14] Many had sustained major wounds, amputations, and blunt trauma. Thousands had lost everything.

The country was indeed desperate for help, both from within and outside its borders, and local people as well as emergency response teams from all over the world took action. Among these were advanced practice nurse Audrey Snyder and emergency medicine physician Scott Syverud from the University of Virginia. The two left Charlottesville on February 4, 2010, to join a group organized by the Lutheran Church (Missouri Synod) to aid a Haitian group working in Jacmel, a small, quaint, historic Caribbean port city about 25 miles from Port-au-Prince and not far from the epicenter of the earthquake. Like Port-au-Prince, Jacmel had been devastated.

Scenes from Jacmel were much like those shown on the news from Port-au-Prince. The center of town bore a swath of destruction. Makeshift cloth tents lined the streets, providing limited shelter for the survivors—some of whom had walked for days to find a place with more food and water than Port-au-Prince. A pervasive odor of human decomposition hung over the city; citizens covered their noses with bandanas to block out the smells. Throughout the rubble-strewn countryside, walls of houses crumbled and floors collapsed, destroying homes and lives.

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[12] S. Correa, R. Petchesky, and R. Parker, ***Sexuality, Health, and Human Rights*** (New York: Routledge, 2008).
[13] Margarete Sandelowski, "Focus on Research Methods: Whatever Happened to Qualitative Description?" ***Research in Nursing & Health*** 23 (2000): 334–340.
[14] http://idh.cidi.org:808/ofda/Haiti-earthquake-fs2010, p. 1.

By the time Snyder and Syverud arrived at the improvised clinic in the Lutheran church in Jacmel, the townspeople and international volunteer response teams were dealing with the aftermath of the disaster, trying to restore some semblance of normalcy for the citizens and refugees who had fled there. During the night, the church provided a place for people to sleep; during the day, it served as a temporary medical clinic. It also was a source of food: During the day, patients and their families were fed lunch; later, they were given bags of food to take with them.

Collaboration between locals and international relief workers was essential to the clinic's success. The faith-based organization, firmly rooted in the community prior to the earthquake, spontaneously acted to provide organization for patient flow as well as Haitian (Kreyól) language interpretation for the visiting medical team. Charter flights bringing medical and nursing staff and supplies to Jacmel also brought in 50-pound bags of food for the community.

Working out of the church, the health care team (consisting of a physician, nurse practitioner, physician assistant, pharmacist, team leader, and other nurses, along with their interpreters) saw more than 120 patients a day, over half of whom were children. Common concerns were wound infections from injuries sustained during the earthquake. Other commonplace diseases included cold, bronchitis, pneumonia, malaria, and dengue fever, along with issues of malnutrition, dehydration, worms, lice, and scabies. Some were typical diseases of tropical developing countries; others were complications developed because of the squalid living conditions and the lack of water and shelter after the quake.

Of particular concern was the lack of access to normal care or pharmacy services. One patient with Parkinson's disease was without medication, and another patient who had been receiving treatment for breast cancer needed her maintenance prescriptions. The pharmacy had been destroyed, and the local medical team had been unable to obtain the medications from elsewhere in the country. Supplies were scarce, and destroyed roadways as well as a devastated infrastructure delayed the delivery of critical medicines and other basic necessities to areas where they were desperately needed. In the Jacmel church clinic, collaboration with medical teams in the United States ultimately resulted in the commitment for the needed medications to be delivered to the church pastor who would in turn ensure the patients received them the next week. It was international collaboration at the grassroots level—a situation where locals and international volunteers worked together to accomplish disaster relief.

Lack of access to routine medical follow-up for wound care, as well as the lack of water, led to other challenges for both patients and medical and nursing personnel. Using bottled water and improvised dressing equipment, Snyder and other nurses cleaned wounds, applied Premetherin for scabies, administered medications, and provided psychological first aid. They also gave patients bandages and taught them how to not only clean and dress their own wounds but also prevent dehydration in the 90º heat. In addition, nurses and physicians fitted crutches for those needing them and taught them how to use them.

In all these situations, the visiting nurse/physician teams had to learn to work within the context of the local culture. In this case, the Haitians relied on verbal rather than written communication. Nurses and physicians accustomed to written orders and documentation were thus at a

disadvantage; often local nurses would provide appropriate care, yet not document that care in writing. Moreover, the language barriers and need for translators further complicated communications, as did the fact that makeshift paper medical records quickly curled with the humidity. Working within these constraints, local and international relief personnel learned to make daily rounds in the morning and evening to improve communication. In some instances, in the absence of patient charts, the time of the last pain medication was written on the patient's forehead. Other barriers related to timing arose. In the United States, medical orders are executed in a precise sequence at precise times. Haiti is a Caribbean island, and locals often operate on "island time," which is more laid back. Once this cultural difference was recognized and discussed, communication among the international teams improved. Cooperation was key.

In addition to providing medical and nursing care for injuries and illness following the earthquake, giving prenatal care for pregnant women was a challenge. In Jacmel, a military group from Sri Lanka had set up a camp on a fenced soccer field, where an estimated 3,500–4,000 displaced evacuees, including 130 pregnant women, were housed in canvas tents. Concerned that these women would go into labor during the night when the gates were closed and they were unable to get to a hospital, a self-proclaimed camp leader rose to the occasion. She was a Haitian woman displaced from Port-au-Prince, and she toured the camp with a megaphone, identifying Haitian women who were midwives or who had delivered babies in the past. She also acquired medical supplies so that the seven midwives who volunteered to be on call could assist with deliveries after hours. She then arranged for a small medical team to provide education to the expectant women in their last trimester, screen them for preeclampsia, and provide them with prenatal vitamins. In this case, ingenuity, leadership, and innovation were essential to meeting the challenges that the team faced.

Physical needs were only part of the problem for those who had survived the earthquake. Psychological care was also important, as the survivors were grief stricken with the loss of multiple family members, their homes and businesses, and their former way of life. Three weeks after the earthquake, many presented with blank stares as evidence of their distress. Without sufficient numbers of social workers and psychologists to meet the need, both local and visiting health care teams had to intervene. Nurses often were the primary support. According to nurse practitioner Snyder, nurses worked with patients to help them "(1) identify what they liked to do before the earthquake and to focus on their ability to do that activity again, (2) to create a good dream to replace the nightmares and flash backs [sic] they were experiencing, and (3) to create a plan to do one thing each day that would help them the next."[15] In short, the nurses helped patients focus on the future and look for a "new normal," and for that the Haitians were grateful. Working in a foreign country following a widespread disaster required nurses to rely on basic nursing skills, to be flexible, creative, and collaborative. Snyder and Syverud drew on their experiences working at a Remote Area Medical Clinic in the United States to clarify roles, provide feedback on clinic flow for efficiency, and anticipate needs. The nurse practitioner, physician assistant, and physician each saw the next patient waiting; specifically, Snyder completed assessments, diagnosed conditions, performed procedures, and prescribed medications. The close proximity of examination areas made consultation or the sharing of unusual presentations with each other easy.

[15] Audrey Snyder, personal communication, March 15, 2010.

Assessing what resources were available in the community and local hospitals was key. Cooperation and collaboration were evident as nurses working in makeshift clinics negotiated with local hospitals for needed supplies. They traded medical supplies that were in excess for those that were needed. Baby bottles were in short supply, and rinsed gloves creatively became both nipple and bottle.

The challenge of providing wound care in hospitals was great. Decontamination of water was the first test. Impregnated gauze, which is frequently used as wound dressings in the United States, "became a soupy mess in the heat."[16] Instead, over a period of 10 days of treatment with just old-fashioned soap and water for cleaning, wounds began to granulate and improve. Instructing patients to provide their own wound care had its own challenges. For example, patients had to be taught to avoid contaminating the cleaning water with dirty gauze. In the outpatient setting, patients needed coal or wood to heat water, a pot to heat it in, and help from someone else to get the water to heat at home. "Home" was often a refugee camp or makeshift lodging in a church or other community building.

Although many international nurses who went to Haiti volunteered with altruistic spirits, many found conflict between their duty to survivors and their own family obligations. The need for nursing help was so great that many volunteers did not want to leave when their committed time was over. Recommendations from early health care teams to those that followed included, "Stick to the date your team has set to leave. You can always come back."[17] Nurses also encountered emotional distress when patients needed to be discharged from the hospital. In the United States, a patient would be discharged to home, a nursing home, or a rehabilitation center. In Haiti, nurses often had to discharge patients from the hospital with no place to go and often with no family to help care for them. Once refugee camps were in place, the patients were discharged there but often without the means to get around. Crutches and wheelchairs were scarce early in the early disaster response.

Working in teams with colleagues one had worked with prior to the disaster experience often helped with communication, as did making daily rounds as a team and ensuring on and off shift reports. These daily debriefings provided an opportunity for team members to share their experiences and identify concerns for group discussion and problem solving.

As the world population grows, people will continue to live in danger zones where earthquakes, storms, and floods—indeed, all natural disasters—will continue. It is important for the world community of nurses to learn from previous disaster responses and be prepared to assist.

Study Questions

1. How have men, women, boys, and girls been affected differently by disasters and displacement from their homes? How have specific events, such as the destruction of schools and sanitation facilities, affected survivors?
2. How do culture and ethnicity influence the different coping mechanisms used by women, men, and young people?

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[16] Kathy Butler, personal communication, March 1, 2010.
[17] Audrey Snyder, personal communication.

3. What are specific threats or risks facing survivors in tent cities?