

Earthquake in Haiti: lessons from a catastrophe

In January 2010, a destructive earthquake hit Haiti resulting in 230,000 deaths and thousands of injured people. The administrative and health structures were severely compromised, after the collapse of hospitals, death of physicians and nurses, destruction of buildings and loss of communication and infra-structure resources. The catastrophe was amplified by the poverty, high population density and poorly-constructed buildings.

The international medical response was large-scaled. At Hôpital de l'Université d'État in Port-Au-Prince, the largest hospital in the capital, Port-au-Prince, several organizations, such as the International Medical Corps, Médecins du Monde, Médecins sans Frontières (MSF), the Red Cross and professionals linked to North-American Universities (Stanford, Utah, Miami, Columbia, etc.) established themselves in the small remaining area at the HUH and in tents.¹ Some arrived at Port-au-Prince in less than 48 hours, such as Israeli Defense Force (IDF)² and the members of the Medshire Project.³

The International Society of Nephrology (ISN) sent the Renal Disasters Relief Task Force (RDRTF) that has worked since 1988 in earthquakes, with a focus on the treatment of acute kidney injury. The work is carried out together with the MSF group, who is in charge of the operation's logistics. The Brazilian Society of Nephrology (Sociedade Brasileira de Nefrologia - SBN) participated in the RDRTF, represented by Luiz Augusto Fernandes da Silva and myself. In this mission, 250 hemodialysis treatments were performed, and numerous patients were treated conservatively.

Important lessons were learned during this mission and can be used for the improvement of future interventions, which must consider: planning, team formation, resource/equipment sizing, working with military forces, inter-relations with governments and partnership with Universities and Medical Societies.

Planning requires commitment, experience and financial resources. A good example is the RDRTF/MSF relationship. Most part of the financial and logistic resources of the mission belongs to MSF. There is a MSF cell in Rio de Janeiro and partnerships could be created involving Medical Societies/the Government/MSF. In the case of Haiti earthquake, we believed that the SBN/government interaction would be natural and welcomed, considering the Brazilian military presence in Haitian territory. However, neither SBN nor the Brazilian Medical Association (Associação Médica Brasileira - AMB) were capable of materializing medical help, leaving a negative impression of the government's posture. Since then, slow progress has been made, as AMB and the Brazilian Armed Forces got closer. In April of this year, a meeting was held with representatives of several medical associations, including those of SBN, and Armed Forces representatives, when a partnership plan was established.

During the Haiti mission, we realized the importance of working with the American Military Forces, which were absolutely important regarding safety enforcement, organizing the course of the care given to the population, transporting patients to the US Comfort ship (hospital boat) and solving operational problems, such as installing field hospitals, water-treatment units and electrical power generators. The militaries were criticized by many, due to their too ostensible presence and conduct. However, in this case, the means justified the ends.

Regarding the formation of medical teams in nephrology, the model of operational cells showed to be effective. A team consisting of three physicians, four nurses and an electrical-electronic technician, with four hemodialysis machines, four of portable reverse osmosis systems

and hemodialysis materials, electrical generator and water available, is capable of performing 100 dialysis treatments a week. Each member of the team must be in good health condition, be vaccinated against infectious diseases, have a good inter-personal relationship profile and multiple skills. One of the members must be the leader, defining objectives, strategies and delegating functions according to each individual's skills, in addition to caring for the group's safety, rest and nourishment. The team must be exchanged every ten days. For that purpose, it is necessary to recruit a four-fold higher number of individuals than that necessary to create an operational cell, to take into account team exchanges, quitting and unexpected events.

The sizing of materials must include not only those related to the treatment of kidney failure, but also antibiotics, vaccine/immunoglobulin against tetanus, HIV prophylaxis medications, morphine, sunscreen lotion and insect repellents. A portable laboratory, such as i-Stat (Abbott) is crucial to perform biochemical tests.

Partnerships with companies that manufacture hemodialysis equipment can be established beforehand, so that in an emergency situation, the equipment can be promptly available, without unnecessary costs or delays.

Once partnerships have been established, teams have been formed and equipment/materials have been defined and are easily accessible, it is possible to have reasonable efficiency with a short-time response between the natural disaster and the start of the mission. The shorter the time, the more lives will be saved. In Haiti, certainly thousands of lives could have been saved, if more teams had arrived earlier.

Another relevant experience was to observe the work of the teams linked to American universities. At HUH, around 20 tents were in operation, treating around 800 patients in improvised beds. Physicians, nurses, interpreters and the military personnel worked in perfect synchronization. The Brazilian universities could be important partners of the government and the Military Forces in calamity situations.

Finally, Medical Societies such as SBN, AMB, The Latin-American Society of Nephrology and Hypertension can work as coordinators of task-forces, providing technical knowledge and human resources. This help cannot be considered negligible by any government, considering that this relationship can yield important results, as exemplified by the RDRTF of the ISN.

We are currently lagging behind regarding the capacity of efficiently acting in case of natural disasters. Only through the organization, planning and establishment of partnerships can one expect to be able to save more lives in future disasters.

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References

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