Editorial

Surgery in developing Countries: why and how to meet surgical needs worldwide

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Our world today is becoming increasingly interconnected at an astonishing pace. Globalization allows interaction across physical, intellectual and temporal dimensions. Nevertheless, the awareness of the enormous unmet needs for surgical care in low- and middle-income countries is still limited. An estimated one-third to one-half of our world's population (2 to 3 billion people) lacks basic surgical care. Surveys from the rural areas of Bangladesh, from India and from urban South America indicate that 10% of all deaths and almost 20% of deaths of young adults are the results of conditions that would be amenable to surgery in the industrial world (1). In East Africa, in 1984, only 11% of women requiring a caesarean section got it, only 14% of patients with inguinal hernia were surgically treated, while 13% of patients with hernia strangulation were operated accounting for a mortality of somewhat 90% (2). Regrettably, this is still factual in 2007, contributing to the 22% probability of death at age 0-15 in sub-Saharan Africa, compared to the 1.1% probability (for the same age interval) in countries with established market economies. Industrial development can also contribute to increase the number of deaths in developing countries. In 2006, road traffic accidents were responsible for 1.2 million deaths and 50 million injuries in the entire world, yet 85% of these accidents happened in the developing countries (3). This is not negligible, considering that traffic-related fatalities were expected to rise by 60% worldwide between 2000 and 2006, with an 80% rise in low- and middle-income countries (3).

How the surgical gap of these countries can be filled, at least partially? What is probably not helpful in many deprived regions is the brief visit of surgeons from advantaged countries, with a load of equipment, for the demonstration of few highly technical operations that cannot be reproduced or maintained in the visited region. A better approach is to encourage the local surgeons to provide the best possible care with resources which can be sustained in their country. Presently, a request for a period of surgical activity in a developing country is frequently made by young doctors of western countries. At the University of California in San Francisco, 90% of surgeons expressed interest in a period of training in a developing country during residency, while 40% of surgical residents had a previous international health experience. Although highly laudable, can this approach bring real advantages to fill the gap? Can our training programs be helpful for surgical activity in developing countries? Our schools of surgery tend to encourage subspecialization and may not produce surgeons adequately trained to manage the broad spectrum of surgical needs for which people attend their local district hospitals. Recently, it has been outlined how the "rural surgeon" is becoming an endangered species in our as well in developing countries (4, 5). Indeed, surgical activity in such countries means working with local staff that is often poorly trained, with a great variation of anesthetic facilities, performing a great variety of procedures, i.e. a true general, not specialized surgical activity. Moreover, the characteristics of the patients are different from those of western countries: late presentation to the hospital, poverty and difficult transports are almost the rule in these patients, who often present several diseases and show feelings about disease and

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death that are very different from ours. Surgeons who arrive in these poor regions often face surgical challenges that they have never seen before, especially if they work in peripheral or district hospitals. All of those working in developing countries should be able to practice not only general surgery but also orthopaedic surgery, operative obstetrics/gynecology and urology, as well as emergency surgery. Therefore, proper training programs are needed for our surgeons who are willing to work in low-income countries. This training may be done either with tutored missions on the field or at home in special schools or courses which should be considered and implemented in our universities. Local training programs are certainly the best option, and these teaching and training opportunities should be addressed not only to western surgeons but also to local medical and paramedical personnel. Teaching and training of local personnel is decisive in filling the gap. However, in contrast the migration of these doctors and nurses from rural to urban areas of their countries is a real problem. This phenomenon is resultant from the higher urban salaries and the possibility of private practice, mainly in the capitals. Undeniably, poor working conditions and low remunerations may push health workers out of the public sector, out of the health sector itself or even out of the country. Health care "brain drain" to industrialized countries is a further problem. Five thousands doctors from sub-Saharan Africa are practicing in the United States (6). It is a small number for the U.S. but it represents a huge sacrifice in the developing world. Until these problems are not be solved by the governments, expatriate's missions can poorly help to fill the surgical gap. Even if each Western surgeon was to spend a few months each year helping in needy regions, not all need could be met. Thus, the problem remains.

One of the duties of Non Government Organisations (NGO), as well as of the governments and of the Surgeon's Associations of high-income countries, should be that of pushing and convincing the governments of developing countries to change their health system policies towards a more important and better rewarded role of surgery. Higher salaries for rural doctors, as well as the sensation of having community support, associated with the possibility of travel fellowships and good access to biomedical information and teaching, could likely be, in my opinion, crucial determinants in meeting the present and future needs of surgery in developing countries. Surgical resource management needs to be substantially upgraded as a whole, in western and especially in poor countries. In these settings, human surgical resources need to be considered as a strategic function, rather than administrative (economic) routine.

Western surgeons should have a vital part in producing evidence and in leading the advocacy to defeat the extreme need of specialized personnel in poor countries. Two thirds of sub-Saharian African countries have only one medical schools. Some have none (7). Twinning medical schools of the developing world with those in developing countries that may provide support in the training of staff in neglected areas is one option. The promotion of distance learning is another option. However, a major constraint is that preparation of the workforce for developing countries is neither the core interest nor the expertise of most institutions in the developed world. Again, the problem is to motivate and train the teachers.

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