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## Health inequalities between the developing and developed world as one of the persistent challenges of our globalizing world

*A specific focus on cardiovascular diseases, the impact of global humanitarian forums, and potential solutions*

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#### Editorial

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Humans with different demographic, geographical, cultural, and ethnic characteristics and various levels of development and wealth presents clear gaps in health care. Complex historical, geographical, socioeconomic, cultural, climatic, adaptive genetic, and behavioral mechanisms can explain why humans' collective work since the beginning of their first communities was not and is not equally distributed. Nevertheless, this unequal distribution of global economic resources between developing and developed countries leads to inequalities in many levels of social life which are, at the same time, responsible for the unequal exposure to the factors determining health problems as well as the unequal ability to benefit from basic and qualified health services.

Cardiovascular medicine is one of the most affected fields of health services by these inequalities. In 2001, there were 13 million cardiovascular diseases (CVD) related-deaths in low and middle-income countries compared to 3 million in high-income countries<sup>1</sup> with a burden in the percentage of all deaths due to CVDs from

23% in 1990 to 28% in 2001<sup>1,2</sup>.

Non-communicable diseases (NCDs) account for 73.4% of all deaths due to CVD, with ischemic heart disease and strokes related to atherosclerosis being the most frequent causes in the 2017 Global Burden of Disease study<sup>3</sup>. With 35% of all deaths, NCDs are located at the second position among the different causes of death in sub-Saharan Africa following an assembly of communicable, maternal, neonatal, and nutritional diseases. Since early twenties, this assembly of diseases is in a progressive decline with regard to their contribution to overall mortality. NCDs might rise to the first position with more than half of all deaths by 2030 in sub-Saharan Africa<sup>4</sup>.

Concurrently in low and middle-income countries, rheumatic heart disease, congenital heart diseases, the endemic endomyocardial fibrosis, and Chagas' heart disease remain unsolved common public health problems<sup>5-7</sup>.

The incidence of acute rheumatic fever (ARF) varies from 5 to 80 per 100,000 inhabi-

tants in most low and middle-income countries<sup>8</sup>. Rheumatic heart disease caused by repeated episodes of ARF affects about 20 million young people and is at the origin of 250,000 premature deaths each year in low and middle-income countries<sup>9</sup>.

In 2017, 12 million people were suffering from congenital heart diseases worldwide, with nearly half of them in low and middle-income countries<sup>10</sup>. Each year between 500,000 and 1.5 million newborns with congenital heart defects are added to this total population. Although the birth prevalence of congenital heart diseases varies between 8 to 12 per 1000 live births, it is very difficult to know the true prevalence of congenital heart diseases at birth in the majority of low and middle-income countries due to unreliable public health statistics, the lack of perinatal diagnostic and major specialty structure facilities. The high frequency of deliveries at home and geographic barriers for families living in rural areas to reach a specialty center are additional factors leading to more undiagnosed cases that die within the first weeks after birth. The low incidence rate of 1.9 per 1000 live births in Africa reflects this multifactorial reality<sup>11</sup>.

Chagas' disease, more endemic in Latin America, caused by *Trypanosoma Cruzi* usually affects children living in poor rural areas and can result in left ventricular systolic and/or diastolic dysfunction and arrhythmias during its chronic phase. Although the risk of new contaminations persists in many children in endemic countries, disease prevention programs continue to be effective in reducing the infected people number. This number was estimated to be between 16 and 18 million in the early nineties versus between 10 and 12 million in the early twenties<sup>12</sup>.

The management of all these above-mentioned heart diseases in low and middle-income countries needs a traditional humanitarian platform focusing on the alleviation of health inequalities and its potential solutions adapted to the conditions of the national health system and the demographic, geographical, cultural, ethnical, socioeconomic, behavioral specificities of each country. These country-related specificities are determinant factors because they di-

rectly influence the establishment of a stronger national political will to invest more in national health systems, the reinforcement of moral imperatives, and the implementation of an appropriate political model to adequately intervene on the socioeconomic determinants of health conditions. For this reason, we have launched in 2003 the "*Global forum on humanitarian medicine in cardiology and cardiac surgery*" in Geneva to serve as a bridge from thought provoking discussions to concrete actions on site adapted to the above-mentioned specificities of the country in need for long term assistance in their national cardiac care programs. On an international level, these global forums have instigated the relationship and networking between NGOs and low or middle-income countries and reinforced the global coalition against the lack of health care services for cardiac patients by promoting awareness of the consequences of lack of appropriate medical and surgical treatment.

These forums have also implemented actions for searching country-specific solutions and have rallied a large number of NGOs for precise policies on research, prevention and health care reinforcement, by including international organizations, foundations and the community of cardiovascular health professionals who in the majority of high income countries was initially quite skeptical. Some low and middle-income countries were also concerned by the same skepticism because of the lack of ownership of these aid policies and the reaction against the myth of Western superiority, which consists of "We talk, you listen; We recommend, you obey; We give, you receive; We teach, you learn..."

These forums allowed us to change our approach and make our counterparts involved in cardiovascular health care more self-confident and permit them to take complete responsibility for taking care of their patients. I always strongly believe that we also have plenty of things to learn from them as well; as partners agreed to work together, coordinate and harmonize procedures, and respect our various specificities, homegrown strategies, and priorities.

I will never forget the intensity of the debates during these global forums over the fact how we

must recommit ourselves to prevent the fleeing and draining of the local human medical capacities of low and middle-income countries and rather make them more accountable to their patients, thus permitting them to exercise leadership in their regions (as India and Brasil do actually). One of the most spectacular achievements of these forums was also the process of how we must concentrate on intensifying our efforts through economic policies to enable them to mobilize additional domestic financial resources to sustain their medical reforms. Many health institutions in India accomplish the most impressive part of this vision by making healthcare affordable for everybody not only across India but at the same time across the globe. The entrepreneurship of Doctor Devi Shetty from Bangalore who introduced a micro health insurance scheme with a monthly premium of Rs 5-7 in his province has to be mentioned as an efficient policy to mobilize the mandatory domestic financial resources to increase the accessibility to heart surgery in India which needs 2.5 million heart operations a year and yet there are only 90 000.

I still believe that the global trends in low and middle-income countries call for optimism. Since economic progress has overcome the demographic explosion over the last decade, in the near future, we can expect more low and middle-income countries to achieve their medical goals on target. Their individual success stories may further stimulate other countries to accentuate international and regional “networking” and collaboration through sustainable programs established by international NGOs.

As social determinants of health play a crucial role in the etiology of all cardiovascular diseases, in 2005 the World Health Organization has created a commission in an attempt to determine the actions aiming at promoting equity in health at global level. In its final report in 2008, this commission recommended improving daily living conditions, fighting against the unequal distribution of money, power, and resources, and evaluating the dimension of the problem and the impact of actions undertaken by all world governments.

Although the individual success stories of

some low and middle-income countries especially in cardiovascular health care reflecting the appropriate actions undertaken by their governments impress us, the improvement of general health conditions in low and middle income countries is unfortunately still a slow-acting process with an estimated 800 million people being chronically hungry worldwide, with limited access to food although the global food production can easily cover 120% of global food needs, with unacceptable slight decrease of life expectancy rates’ gap between developing and developed countries, with more than 6 million children under the age of 5 years dying on a yearly basis due to preventable causes in low-income countries, with infectious diseases such as diarrhea, respiratory infections, malaria, tuberculosis and HIV continuing to be the first cause of death in children in low-income countries, with an evidence showing that about 80% of non communicable diseases related deaths -such as cardiovascular diseases, cancer, diabetes, chronic respiratory diseases-, occur in low and middle-income countries and with higher death rates related to various forms of violence, in low and middle-income countries.

Despite all these arguments, unfortunately, the political motivation in favor of implementing concrete actions as part of public health policies by national governments is still failing. For this reason, health inequalities between developed and developing countries perhaps require an international leadership capable of formulating specific health policies adapted to the specificities of each low or middle-income country, coordinating them in different sectors such as labor, education, social protection etc and supervising their positive effects on health determinants<sup>13</sup>.

As we have started timidly doing for our environmental and climatic problems, a global governance able to collaborate in harmony with the health authorities of low and middle-income countries, various international organizations, intergovernmental agencies and NGOs may be one of the ideas to deploy in actions, the target being to ensure the sustainable development of our global human society in the area of health.

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