

## Editorial

DOI: <http://dx.doi.org/10.15446/revfacmed.v66n2.70828>

### Research on heart failure in Colombia, time to take a step forward

*“The mind is not a vessel to be filled but a fire to be kindled”*

Plutarch

Cardiovascular diseases are the leading cause of death worldwide. According to the Ministry of Health, in Colombia, cardiac ischemic disease ranks first, followed by stroke, diabetes and hypertensive heart disease, which are in the top ten sources of mortality. (1,2) Almost any pathology that affects the heart can lead to heart failure (HF); however, the most common cause worldwide is ischemic heart disease.

For the period 1998-2011, cardiovascular diseases accounted for 23.5% of all deaths in the country, and cardiac ischemic disease was involved in 56.3% of them. These figures showed an average mortality rate of 104.6 cardiovascular deaths per 100 000 inhabitants per year. (3) A study conducted in Colombia in 4 239 patients treated in heart failure clinics showed that ischemic etiology was the most prevalent (38.7%), followed by idiopathic dilated cardiomyopathy (21.6%) and other less prevalent causes such as valvular heart disease (10.5%), Chagas heart disease (10.3%) and hypertensive heart disease (12.2%). (4)

In 2006, approximately 26 million people worldwide were living with heart failure (5), and an estimated 1.1 million people in Colombia were affected. (4) According to the Ministry of Health, between 2009 and 2012, admissions increased (121%) in emergency services and inpatient care due to HF. (6)

Considering this, we are facing a major issue in Colombia, and its treatment entails significant costs for the health system. Since research is a way to understand and solve health problems, a question arises: what is the state of research on HF in Colombia? In this issue of the Journal of the Faculty of Medicine, Diaztagle *et al.* (7) present the work entitled “Research on heart failure in Colombia 1980-2015: a systematic review”, in which the authors identify 35 original studies, for an average of 1 article per year, although the trend shows more publications in the past 5 years, with almost 5 articles per year. These data are alarming because of the small number of investigations on this topic, taking into account that during the same period evaluated in the study, 5 694 original articles on the same topic were published in international indexed journals according to the PubMed database. Furthermore, over half of the studies conducted in our country were descriptive (54.2%).

In the 1996-2017 period, Colombia ranked 47<sup>th</sup> in the world in terms of production of medical research articles and 42<sup>nd</sup> in evaluation publications on cardiovascular medicine. (8) This amount of articles is very far from the thirtieth position, occupied by Iran with three times as many publications in this field. In the same period, the country ranked fourth in Latin America, Mexico being the third with

twice as many publications. (8) It is evident that our production of original articles is low, even compared to other developing countries.

Diaztagle *et al.* (7) should be congratulated for their hard work to obtain the articles, which included a manual revision in newspaper and periodicals libraries. Although the information that the authors provide is useful, the study is essentially descriptive, like most research on HF, and does not address the causes of low research, and, therefore, does not provide any kind of solution.

Medical research aims to generate new knowledge for the diagnosis, treatment or prevention of a disease. This new knowledge should be directed, ultimately, to solve the problems of patients. Cardiologists, internists, intensivists, emergency physicians, family physicians and general practitioners know that HF is a frequent entity that leads to frequent use of health services. In consequence, the lack of research is not related to the lack of patients; on the contrary, it is very likely that it is related to poor medical research in the country.

I believe that this problem occurs due to the lack of research “culture”, because in countries like Colombia we do not believe that we can produce useful information and accept that all the evidence coming from industrialized countries is fully replicable in our population. But, this is not entirely true and we have many examples, such as the case of the use of warfarin with INR between 2 and 3 in patients with atrial fibrillation and at high risk of embolic events to reduce said risk with a low probability of bleeding complications; this was evaluated through several studies conducted on East Asian populations, finding a high index of intracerebral hemorrhagic events (9) that led to recommend lower INR (1.6-2.5) in their guidelines. Another example, in our context, is the lack of reproducibility of risk scores that have shown encouraging results in other studies in patients with syncope attended by emergency services. (1,10) In consequence, although showing that a wheel rotates in every direction is not necessary, it is possible that its rotation is not the same everywhere.

Understanding that part of our problem lies in the lack of resources to investigate is essential. The Administrative Department of Science, Technology and Innovation (Colciencias in Spanish) is the main state contributor of these resources and obtaining them is not easy; therefore, alliances with private companies have to be established in order to develop serious research that produces relevant information for patients. The Ministry of Health should provide funds to hospitals to produce research and hospitals, in turn, should at least grant the necessary time to doctors who want to investigate.

Controlled clinical trials are considered, until now, the culmination of medical research, but I think we are far from conducting this type of large-scale studies in the country. However, we may have records, obtained by scientific societies or cohorts, of patients with follow-ups in university hospitals. The economic assessment of the different diagnostic and therapeutic strategies is also relevant, in

particular regarding the usefulness of high-cost treatments for HF, such as the use of cardioverter defibrillators and resynchronizers or heart transplantation.

Another important aspect is that we have our own problems related to poverty; for example we do not know what the impact of partial adherence to drugs for HF is and how it correlates to delivery issues in health promoting entities or what the impact on these patients is when they also have cardiac devices. We do not know either what the real response of our patients is to the different treatments for HF approved internationally.

Only knowing the research landscape on heart failure in Colombia can we understand what happens when evidence-based medicine is applied in our population. In conclusion, the study of Diaztagle *et al.* (7) is a basis for more and better research in Colombian patients with HF and to take a step forward.

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