

## SHORT EDITORIAL

**How Can We Expand Knowledge to Improve Women's Cardiovascular Health in Latin America?**

Maria Alayde Mendonça Rivera,<sup>1,2</sup> Carolina María Artucio,<sup>3</sup> Glaucia Maria Moraes de Oliveira<sup>4</sup>

*Universidade Federal de Alagoas,<sup>1</sup> Maceió, AL – Brazil*

*Santa Casa de Misericórdia de Maceió,<sup>2</sup> Maceió, AL – Brazil*

*Instituto de Cardiología Intervencionista,<sup>3</sup> Montevideo – Uruguay*

*Universidade Federal do Rio de Janeiro,<sup>4</sup> Rio de Janeiro, RJ – Brazil*

**Short Editorial referring to the article: Cardiovascular Disease in Latin American Women Gaps and Opportunities**

Latin America (LA) is characterized by enormous cultural diversity due to its multiplicity of languages (Spanish, Portuguese, French, English, Dutch, and countless indigenous languages), ethnicities (white, black, indigenous), beliefs, climates, religions, and customs. This variability is observed between countries and within each country in the region, making them unique, even though they share a geographic area and numerous historical facts.<sup>1</sup> There is evidence that the epidemiological and nutritional transition has been more heterogeneous in LA than in other areas of the world, which contributes to a significant variability between countries and their subregions not only in the prevalence of different cardiovascular (CV) risk factors (RFs), but in CV mortality as well. Currently, 51% of the 659 744 000 inhabitants (UN, 2022) are women in LA and the Caribbean.<sup>1</sup>

According to the Global Burden of Diseases (GBD) 2021, the leading causes of death in Latin American women in 2021 were related to the COVID-19 pandemic, which reduced life expectancy in the region by approximately three years, more markedly in LA and the Caribbean (Figure 1). Regarding noncommunicable diseases (NCD), peculiarities in the death rates per 100 000 inhabitants in LA and the Caribbean, and in Southern LA were observed in 2021. CV disease, followed by neoplasms, is responsible for the highest death rates per 100 000 inhabitants in the Caribbean, Tropical LA, and Southern LA, where this ranking is inverse in Chile. Diabetes and kidney diseases, followed by CVD, account for the highest

death rates per 100 000 inhabitants in Central LA. In contrast, neoplasms, followed by mental illnesses, predominate in Andean LA.<sup>2</sup>

Analyzing the GBD 2021 data, in terms of DALYs attributed to selected RFs in LA, the importance of metabolic RFs (increased fasting serum glucose followed by increased body mass index and arterial hypertension) and behavioral RFs (dietary risks and malnutrition) stands out in all regions of LA and the Caribbean. It is essential to mention that these are the five most critical RFs for DALYs due to CVD, with special emphasis on high blood pressure and dietary risks in LA in 2021 (Figure 2).<sup>2</sup>

Numerous studies carried out before 2014 with population groups from different Latin American countries have demonstrated significant variability in the prevalence of different modifiable CV RFs in Latin American women as compared to men, with a higher frequency of obesity [28.5% (18.4% – 42.6%) × 23.7% (13.8% – 36.5%)], diabetes [10.2% (4.8% – 17.2%) × 10.2% (4.8% – 17.2%)], sedentary lifestyle (84.3% × 75.6%), and depression (36.7% × 26.4%) in women.<sup>3-5</sup> The analysis of 389 population studies carried out in 37 countries and 6 subregions of the Americas, comparing the prevalence of high blood pressure, obesity, and diabetes mellitus between 1980 and 2014, has shown an increase in the prevalence of obesity and diabetes in all countries, with a tendency towards a reduction or stabilization in hypertension prevalence in the region.<sup>6</sup>

Although CVD is the leading cause of death in women in the Americas and around the world, it is understudied, under-recognized, underdiagnosed, and undertreated.<sup>7</sup>

**Keywords**

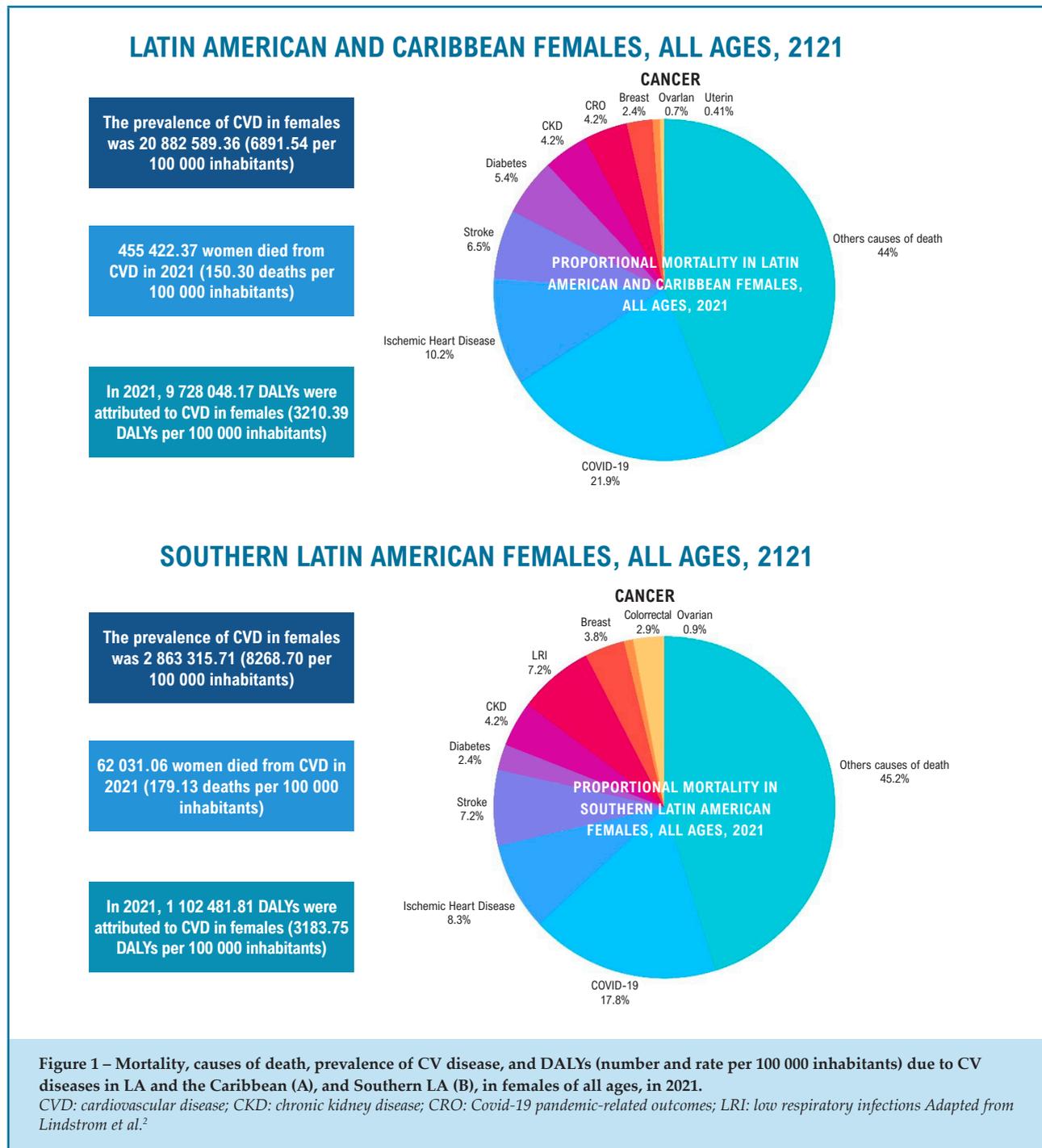
Cardiovascular Diseases; Women; Latin America.

**Mailing Address: Glaucia Maria Moraes de Oliveira**

Universidade Federal do Rio de Janeiro. Rua Visconde de Pirajá, 330, sala 1114. Postal code: 22410-000. Rio de Janeiro, RJ – Brazil

E-mail: glauciamoraesoliveira@gmail.com

**DOI: <https://doi.org/10.36660/ijcs.20240027>**



Almost three decades have passed since the conduction of the first CVD perception survey in women in the United States (US), reporting low perception of CVD as the leading cause of death. After significant awareness and education campaigns (*Go Red for Women*), the number increased (from 30% to 56%), but with racial disparities.<sup>8</sup> The strategy was replicated in several South American countries, where

several studies have been carried out: Colombia (2008 and 2017), Uruguay (2013), Argentina (2006), and Chile (2015). The three Southern Cone countries replicated it as a collaborative project of the Inter-American Society of Cardiology (SIAC) in 2020.<sup>9-11</sup> The impact of the strategies implemented during the period was compared. In all surveys, cancer was the primary health problem and cause of death mentioned, with

## Ranking of attributed RFs of diseases, according to DALYs rates per 100 000 inhabitants, in LA and the Caribbean, and Southern LA, females of all ages, 2021

ANDEAN LATIN AMERICA	CENTRAL LATIN AMERICA	TROPICAL LATIN AMERICA	THE CARIBBEAN	SOUTHERN LATIN AMERICA
<ul style="list-style-type: none"> <li>• High body mass index</li> <li>• High fasting plasma glucose</li> <li>• Malnutrition</li> <li>• High blood pressure</li> <li>• Dietary risk</li> <li>• Air pollution</li> </ul>	<ul style="list-style-type: none"> <li>• High fasting plasma glucose</li> <li>• High body mass index</li> <li>• High blood pressure</li> <li>• Dietary risk</li> <li>• Kidney dysfunction</li> <li>• Malnutrition</li> </ul>	<ul style="list-style-type: none"> <li>• High body mass index</li> <li>• High fasting plasma glucose</li> <li>• High blood pressure</li> <li>• Malnutrition</li> <li>• Dietary risk</li> <li>• Tobacco</li> </ul>	<ul style="list-style-type: none"> <li>• Malnutrition</li> <li>• High fasting plasma glucose</li> <li>• High blood pressure</li> <li>• High body mass index</li> <li>• Air pollution</li> <li>• Dietary risk</li> </ul>	<ul style="list-style-type: none"> <li>• High body mass index</li> <li>• High fasting plasma glucose</li> <li>• High blood pressure</li> <li>• Dietary risk</li> <li>• Tobacco</li> <li>• Kidney dysfunction</li> </ul>

Figure 2 – Attributed RFs of diseases, according to DALYs rates per 100 000 inhabitants, in LA and the Caribbean, and Southern LA, females of all ages, 2021.

Adapted from Lindstrom et al.<sup>2\*\*</sup>

numbers ranging from 46% to 60%. The Latin American countries surveyed had lower initial scores than the US on both questions, with CVD ranging from 12% to 20% as a cause of death. Differently from that in the US, women's perception of CVD risk in LA has remained low over the years.

What stands out in those surveys? All women agree with the low self-perceived knowledge about CVD, but they are aware of the preventive measures to be taken and recognize typical symptoms of ischemic heart disease. Communication has changed drastically, with the Internet and social media predominating. This requires health professionals, scientific societies, and state agencies to use the most effective methods of disseminating information. On the other hand, doctors do not value their roles as reliable sources of information, considering that less than 25% of those surveys' respondents talked about CV symptoms with their doctors.

A survey of primary care physicians and cardiologists by Bairey Mertz et al. for the *Women's Heart Alliance* has shown that although most doctors were aware of risk assessment recommendations, relatively few used the guidelines comprehensively in women.<sup>12</sup>

The *Consejo de Cardiopatía en la Mujer de la SIAC* makes efforts to disseminate information and educate about CV risk in women, carrying out campaigns, joint actions with the American Heart Association

(*Women in Red* campaign) and Inter-American Heart Foundation, research and events, scientific studies, as well as recently publishing the *SIAC Clinical Practice Guidelines* on primary prevention of CVDs in women. It is aimed at the medical community dedicated to women's comprehensive health, regardless of specialty, to change this reality.<sup>13</sup>

The Department of Women's Cardiology from the Brazilian Society of Cardiology (DCM-SBC) has proposed the *National Day of Awareness of CV Diseases in Women*, approved by Law 14320 of 2022, deliberated in the *Women's Letter*.<sup>14</sup> It is celebrated on May 14th in honor of Bettina Ferro de Souza, the first female president of the SBC. In addition, the DCM has promoted initiatives, such as the publication of the *Position Statement on Women's CV Health* to expand the prevention, diagnosis, and treatment of CVD in women.<sup>15</sup>

Promoting initiatives to increase knowledge about the importance of CV health throughout a woman's life is essential in LA and around the world. Furthermore, it is necessary to better understand local disparities in women's CV health to define public health care policies, reduce gaps, and promote gender equity in CV health care. Women across LA need to join forces and share solutions to modify the morbidity and mortality of NCD and CVD, which share common and modifiable RFs.

## References

1. América Latina [Internet]. San Francisco: Wikipedia; 2024 [cited 2024 Feb 2]. Available from: [https://pt.wikipedia.org/wiki/América\\_Latina](https://pt.wikipedia.org/wiki/América_Latina).
2. Lindstrom M, De Cleene N, Dorsey H, Fuster V, Johnson CO, LeGrand KE, et al. Global Burden of Cardiovascular Diseases and Risks Collaboration, 1990-2021. *J Am Coll Cardiol*. 2022;80(25):2372-425. doi: 10.1016/j.jacc.2022.11.001.
3. Magnussen C, Ojeda FM, Leong DP, Alegre-Diaz J, Amouyel P, Aviles-Santa L, et al. Global Effect of Modifiable Risk Factors on Cardiovascular Disease and Mortality. *N Engl J Med*. 2023;389(14):1273-85. doi: 10.1056/NEJMoa2206916.
4. Lanas F, Avezum A, Bautista LE, Diaz R, Luna M, Islam S, et al. Risk Factors for Acute Myocardial Infarction in Latin America: The INTERHEART Latin American Study. *Circulation*. 2007;115(9):1067-74. doi: 10.1161/CIRCULATIONAHA.106.633552.
5. Rivera-Andrade A, Luna MA. Trends and Heterogeneity of Cardiovascular Disease and Risk Factors Across Latin American and Caribbean Countries. *Prog Cardiovasc Dis*. 2014;57(3):276-85. doi: 10.1016/j.pcad.2014.09.004.
6. NCD Risk Factor Collaboration. Trends in Cardiometabolic Risk Factors in the Americas between 1980 and 2014: A Pooled Analysis of Population-based Surveys. *Lancet Glob Health*. 2020;8(1):123-33. doi: 10.1016/S2214-109X(19)30484-X.
7. Vogel B, Acevedo M, Appelman Y, Merz CNB, Chieffo A, Figtree GA, et al. The Lancet Women and Cardiovascular Disease Commission: Reducing the Global Burden by 2030. *Lancet*. 2021;397(10292):2385-438. doi: 10.1016/S0140-6736(21)00684-X.
8. Mosca L, Hammond G, Mochari-Greenberger H, Towfighi A, Albert MA. Fifteen-year Trends in Awareness of Heart Disease in Women: Results of a 2012 American Heart Association national survey. *Circulation*. 2013;127(11):1254-63. doi: 10.1161/CIR.0b013e318287cf2f.
9. Varleta P, Acevedo M, Valentino G, Brienza S, Del Sueldo M. Awareness of Risk Factors and Prevention of Cardiovascular Disease in Chile: SIAC Cono Sur Survey. *Rev Chil Cardiol*; 2022;41(2):82-91. doi: 10.4067/S0718-85602022000200082.
10. Del Sueldo M, Brienza S, Lorenzatti A, Gutierrez N, Brocal L, Ribotta M, et al. Perception, Knowledge, and Preventive Behaviors on Cardiovascular Disease Among Argentine Women. *Rev Fed Arg Cardiol*. 2022;51(2):68-77.
11. Giambruno M, Michelis V, Fernández A, Duro I, Murguía E, Artucio C. Cardiovascular Diseases: What Do Women in Uruguay Perceive? *Rev Urug Cardiol*. 2022;37: 1-15. doi: 10.29277/cardio.37.1.1.
12. Merz CNB, Andersen H, Sprague E, Burns A, Keida M, Walsh MN, et al. Knowledge, Attitudes, and Beliefs Regarding Cardiovascular Disease in Women: The Women's Heart Alliance. *J Am Coll Cardiol*. 2017;70(2):123-32. doi: 10.1016/j.jacc.2017.05.024.
13. Del-Sueldo MA, Mendonça-Rivera MA, Sánchez-Zambrano MB, Zilberman J, Múnera-Echeverri AG, Paniagua M, et al. Clinical Practice Guideline of the Interamerican Society of Cardiology on Primary Prevention of Cardiovascular Disease in Women. *Arch Cardiol Méx*. 2022;92(Suppl 2):1-68. doi: 10.24875/acm.22000071.
14. Oliveira GMM, Negri FEFO, Clausell NO, Moreira MDCV, Souza OF, Macedo AVS, et al. Brazilian Society of Cardiology - The Women's Letter. *Arq Bras Cardiol*. 2019;112(6):713-4. doi: 10.5935/abc.20190111.
15. Oliveira GMM, Almeida MCC, Marques-Santos C, Costa MENC, Carvalho RCM, Freire CMV, et al. Position Statement on Women's Cardiovascular Health - 2022. *Arq Bras Cardiol*. 2022;119(5):815-82. doi: 10.36660/abc.20220734.

