

SHORT EDITORIAL

Recognizing the reality of cardiovascular diseases

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The vast majority of cardiovascular research emphasizes the high burden of heart diseases and the preponderance of these diseases in mortality.^{1,2} Efforts to learn how major cardiovascular diseases are managed have been led by the countries with the greatest economic power. However, a large part of the world's population has been forgotten, because the realities of life in developing countries make it impossible to apply all the recommendations. As a result, adverse cardiovascular outcomes remain common, reducing quality of life and life expectancy. In the following paragraphs, I will comment on chronic coronary syndromes, specifically on the efforts made by physicians in India to adapt the management of this disease to their resources and situation.

The underlying pathophysiology of chronic coronary syndromes is myocardial ischemia caused by alterations in coronary flow, mostly due to atherosclerosis, and they are part of a continuum in which atheromatous plaques can become complicated and unstable, causing acute coronary syndromes. To speak of chronic coronary syndromes is not only to refer to a phenomenon at the coronary level but also to consider the associated risk factors. The most common risk factors are hypertension, diabetes, dyslipidemia, smoking, and physical inactivity. However, other non-conventional factors such as exposure to pollutants, social deprivation, occupational stress, hormonal changes, environmental noise, and the area of the world in which we live must also be emphasized.³ All these phenomena can cause alterations in coronary flow, either by atheroma plaque or by alteration of the microcirculation. For the

diagnosis of these diseases, many studies are required, such as electrocardiograms, echocardiograms, cardiac scintigraphy, magnetic resonance imaging, coronary artery tomography, or invasive coronary angiography. Initial treatment is medical, but in many cases, a revascularization strategy will be necessary, either by surgery or percutaneous coronary intervention.⁴

Due to the high incidence of risk factors, it is important to highlight that chronic coronary syndromes are highly prevalent and that the number of cardiologists available is not sufficient for the entire world population and this situation becomes more critical in highly populated as well as isolated areas. This situation is a call to highlight the need for all healthcare personnel, especially primary care physicians, to have general knowledge of this disease to establish initial strategies and make timely referrals. It is also important to mention that in several parts of the world, the tools may be available for diagnosis, but if not suspected, the patient may suffer a significant delay in treatment. Efforts worldwide should not only focus on publishing guidelines or regulations for specialists but also on providing all healthcare personnel with essential information for the management of this and other important diseases, as well as creating population-wide outreach campaigns to improve awareness of the potential consequences (Figure 1).

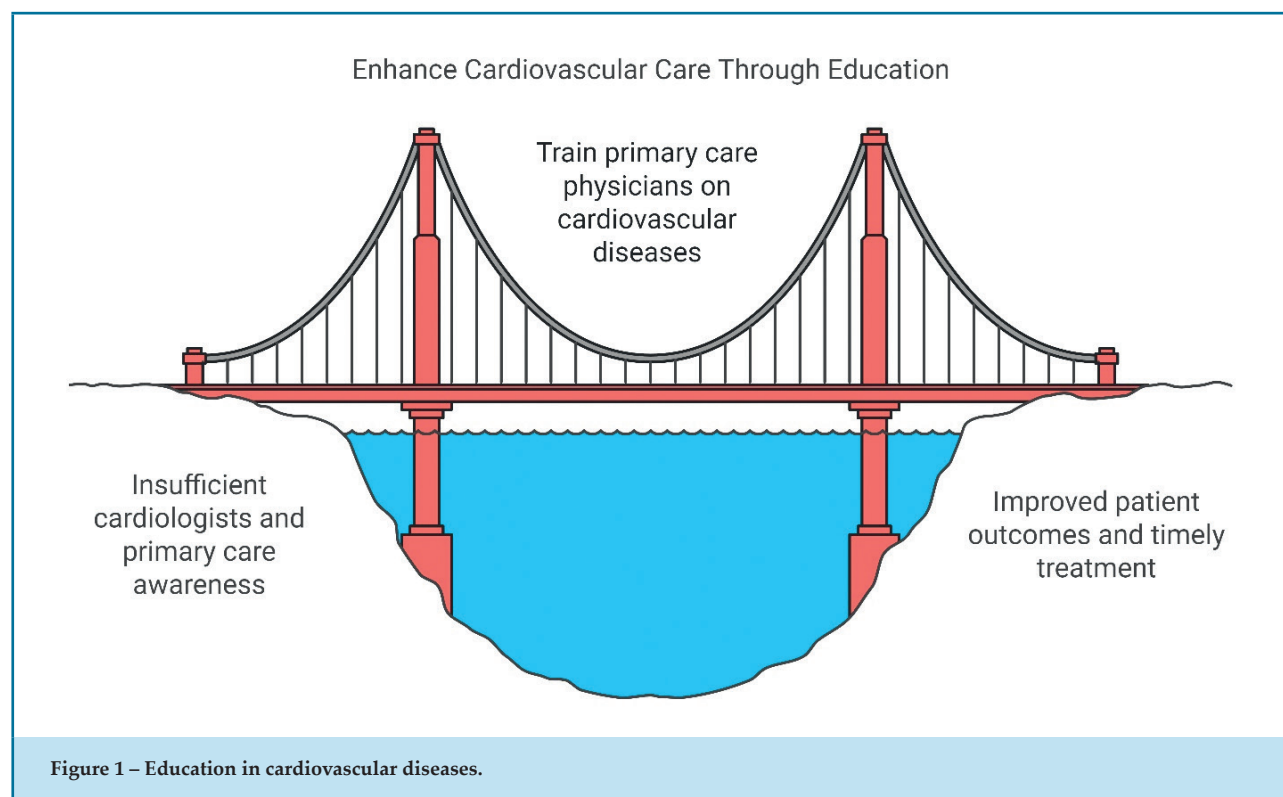
Regarding this disease, it is important to emphasize that patients seek health services when they have chest pain, that is, when they consider it to be an emergency. In most parts of the world, primary angioplasty has been established as the gold standard for the treatment of ST-segment elevation myocardial infarction, which has been demonstrated in many clinical trials in first-world countries with adequate in-hospital and out-of-hospital referral systems and without resource limitations. On the other hand, pharmacoinvasive

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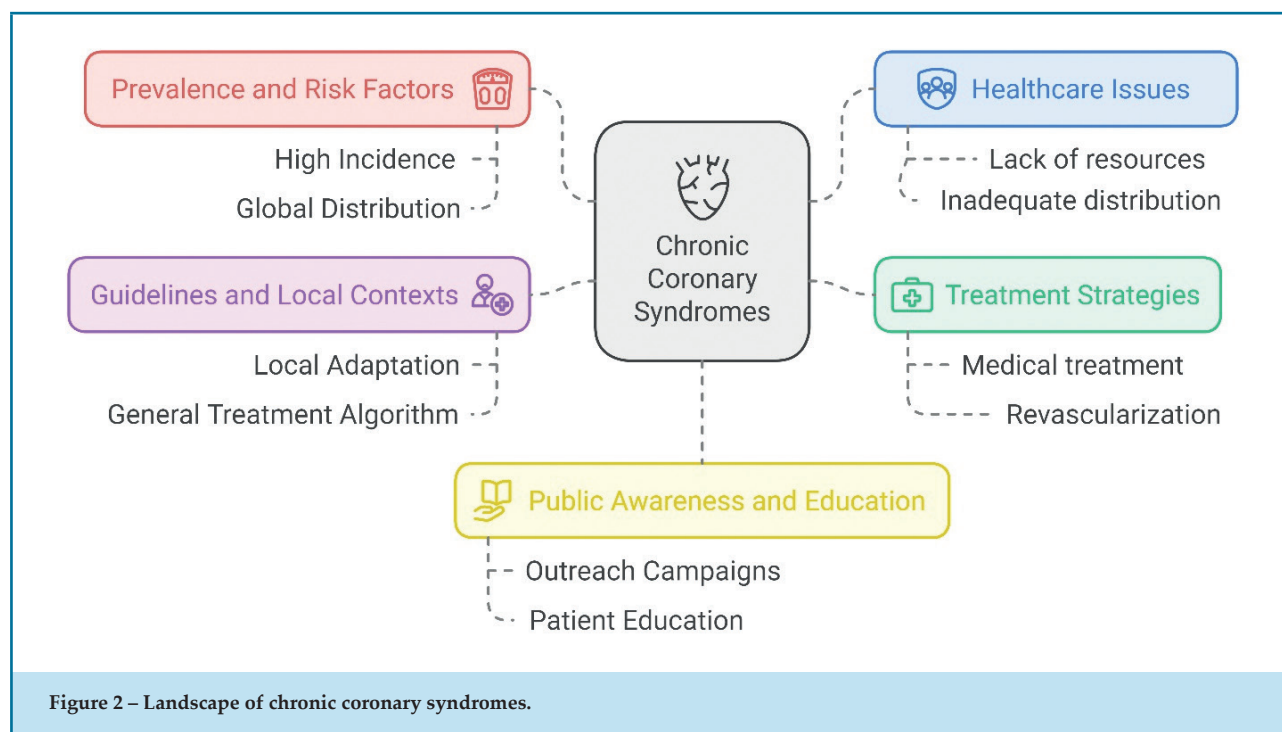
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strategy (i.e., the combination of fibrinolysis followed by coronary angiography with angioplasty) has been mentioned as an alternative in case primary angioplasty is not available. Regarding this, it is worth mentioning that countries such as India and Mexico have made improvements in the care of patients with chest pain and acute myocardial infarction care by establishing networks that are strengthened by training health care personnel at all levels of care and by making better use of out-of-hospital resources. The pharmacoinvasive strategy has been shown to improve outcomes in both countries, particularly in Mexico City and the Tamil Nadu area. This situation shows that developing countries have found a way to follow the guidelines of developed countries, taking into account their reality and limitations to give the best outcomes for the majority of patients.⁵⁻⁷

Clinical trials and guidelines refer to an idyllic and utopian world, but we seem to forget this and want to impose the guidelines on patients without considering the social, economic, psychological, and personal preferences that surround the disease. The document proposed by physicians in India is a laudable effort to push the boundaries for diagnosis and treatment recognizing the limitations of their healthcare system due to lack of awareness, accessibility, unequal distribution

of resources, unaffordability, and lack of accountability. Each country needs to be aware of its problems and propose solutions for them, in order to offer the best resources and medical attention to patients (Figure 2). As rightly mentioned in this document, one of the first steps is to inform the population and physicians in rural health centers. It is also important to establish a general treatment algorithm and leave the details of diagnosis and treatment to the specialists which can be better used in some referral centers. It should be noted that this document does not propose to perform any maneuvers different from those established at the international level, but rather recognizes that there are problems in the system of identification and timely referral, and therefore proposes that, to benefit patients, diagnosis should be made more fluid in order to treat them timely and avoid patients having the first contact with the health system when they have already suffered an acute myocardial infarction, which leads to higher costs and diminishes quality of life. In the same way that this document proposes the paths to follow in the case of chronic coronary syndromes, there should be more attempts to extend the reach of diagnosis and treatment of other metabolic and cardiovascular diseases, since they have the greatest impact on outcomes.⁸



In conclusion, we must embrace and recognize the reality of cardiovascular diseases in our healthcare systems to be able to prevent, diagnose, and treat them promptly. If we expect to have infinite resources and imitate the conditions of countries with greater economic power, it

will be difficult to improve the outcomes and quality of life of our patients in the short term. In this case, we must recognize the importance of chronic coronary syndromes in order to disseminate more information, make an early diagnosis and offer the best available treatment.

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