

Health Promotion to Reduce Delays in Seeking Medical Attention in Patients With Acute Coronary Syndrome. Response



Promoción de salud para reducir el retraso en buscar atención médica de los pacientes con síndrome coronario agudo. Respuesta

To the Editor,

We appreciate the comments of Moreno-Martínez et al concerning our article published in *Revista Española de Cardiología*.¹ In that study, we demonstrated the importance of the delay in seeking medical attention (DSMA) as the period of time that most influences total ischemia time. Given that a decrease in time-dependent morbidity and mortality has been shown in patients with ST-segment elevation acute coronary syndrome who undergo primary percutaneous coronary interventions, the main objective of acute ischemic heart disease care networks is to reduce these times.^{2–4} Although published series have demonstrated that DSMA is the major determinant of total ischemia time, most of the efforts of care networks are focused on reducing the time between the call for attention and reperfusion.^{2–4} The general population has little knowledge of the symptoms consistent with acute coronary syndromes.⁵ In addition, there are discrepancies concerning the efficacy of public awareness campaigns focusing on symptom recognition and the importance of an immediate call for medical assistance.⁶ The results of an intervention campaign, the “*Salva una vida*” (Save a Life) project, which was recently conducted in Catalonia, in northeastern Spain, in conjunction with the European “Stent for Life” initiative, are pending analysis. In our study, we identified 3 major groups—older patients, women, and diabetic patients—that should be the focus of these strategies.¹ Thus, we agree on the need to carry out primary prevention campaigns, with the indispensable collaboration of family medicine physicians, aiming not only toward the essential control of risk factors, but also toward making populations at high risk for DSMA aware of the need to call for assistance immediately after recognizing symptoms consistent with acute ischemic heart disease. We hope that future studies will shed light on the best

way to achieve the effective implementation of these strategies in the general population.

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Multistate Models for Survival Analysis of Cardiovascular Disease Process



Modelos multiestado para el análisis de supervivencia en procesos de enfermedad cardiovascular

To the Editor,

Noncommunicable diseases (NCD) are a major cause of death worldwide. About 63% of the 57 million global deaths in 2008 were due to NCD, which are also on the rise every year.¹ Four important NCD include cardiovascular diseases, chronic pulmonary diseases, cancers, and diabetes. The World Health Organization has focused on 4 main serious contributors to NCD: an unhealthy diet, cigarette smoking, excessive alcohol consumption, and physical inactivity. Ischemic heart diseases and cerebrovascular diseases were and are predicted to be the 2 leading causes of death in 2002 and 2030.^{2,3} With an aging population and advances in the diagnosis of cardiovascular diseases in Iran, we are seeing a considerable increase in the incidence of cardiovascular diseases. However, despite good progress in the treatment of these diseases, the mortality rate from cardiovascular diseases remains high.^{4,5}

A main determining factor concerning NCD is their early detection. Unless medical staff detect an NCD as early as possible, it will lead to chronic conditions, imposing a large financial burden on families and the health care system over time. In recent years, advanced statistical methods such as advanced regression models, artificial neural networks, Markov and hidden Markov models, and decision trees, to mention a few of them, have been developed to lead to more accurate and earlier detection of various diseases.

There are a wide range of methods to evaluate the clinical characteristics and cardiovascular disease process. Furthermore, clinicians are interested in both the final outcome and the dynamics of the process itself. To improve understanding of disease prognosis, a series of models are suggested that simultaneously consider progression, the mortality rate, and related factors.

Multistate models are stochastic processes in which patients could occupy different intermediate states (disease conditions) before the final outcome at any time.⁶ In medical applications, the states may represent remission, different severities of the disease, discharge, or hospital infection. The effect of treatment and risk factors could be investigated using multistate models through patients' transitions in various states. Some associated factors