

Editorial

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When distance is the enemy: barriers in the treatment of acute myocardial infarction

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ABSTRACT

Atrial fibrillation (AF) is the most prevalent arrhythmia worldwide, associated with a significant increase in major cerebrovascular events and morbidity and mortality. In Latin America, the prevalence of hypertension, obesity, alcohol consumption, and smoking is high, contributing to an increased risk of AF and its associated complications.

The HARMS2-AF score emerges as a simple, clinically applicable model with high predictive performance.

This approach, focused on modifiable factors, reaffirms that AF is not an isolated disease, but rather a reflection of lifestyle choices and poorly controlled comorbidities. This is especially valuable for Latin America, where these risk factors are prevalent and treatable in primary care.

INTRODUCTION

Atrial fibrillation (AF) is the most prevalent arrhythmia at world level, associated with a significant increase in major cerebrovascular events and morbimortality. In Latin America, the prevalence of hypertension, obesity, alcohol consumption and smoking is high, contributing to an increase in the risk of AF and its associated complications. This scenario places it as a problem of public health, transcending frontiers, and raises the need for risk stratification tools adapted to the local population, which would allow an early identification of individuals in risk and the implementation of efficient preventive interventions in primary care. So, this timely study, which evaluated the usefulness of the HARMS2-AF score for a 10-year follow-up, is a valuable contribution for medicine in Latin America. Its main contribution lies in that it integrates modifiable risk factors, positioning prevention as the focus of discussion.

THE HARMS2-AF STUDY

The HARMS2-AF score emerges as a simple model, clinically applicable, and with a high predictive performance (AUC 0.81). Unlike other scores (CHA2DS2-VASc, Framingham, Charge-AF), it grants weight to directly modifiable causes: hypertension, obesity, smoking, alcohol and sleep apnea. This shifts the focus from passive prevention to active intervention, being particularly valuable in primary prevention.

The study analyzed a cohort of 2482 individuals from northwest Colombia for 10 years. Adult patients, with no previous diagnosis of AF, associated to a program of cardiovascular prevention, were monitored and AF incidence was estimated.

The results of the cohort are conclusive:

1. Hypertension emerged as the strongest predictor for AF (HR 4.0).
2. Obesity and sleep apnea showed an independent association, reinforcing the relevance of metabolic syndrome and respiratory disorders of sleep for atrial remodeling.
3. A high consumption of alcohol behaved in a dose-dependent manner, with a higher risk in those ingesting >15 drinks/week.
4. Therapeutic adherence modulated risk, highlighting the significance of early education.

This approach, focused on modifiable factors, reaffirms that AF is not an isolated disease, but a reflection of lifestyles and poorly controlled comorbidities. This is particularly valuable in Latin America, where these risk factors are prevalent and treatable from primary care.

STRENGTHS OF THE STUDY

The HARMS2-AF score has displayed a superior predictive performance in comparison with traditional tools, such as Framingham-AF and CHARGE-AF, where it presented a comparable capacity.

In clinical practice, particularly in Latin America, many patients present to the medical office in advanced stages of AF, when complications have already occurred or there are significant echocardiographic alterations. This scenario underscores the need to implement early prevention strategies; interventions addressed to control modifiable risk factors, which may have a substantial impact on AF incidence decrease.

This study contributes:

1. Regional validation: it provides evidence in a Latin American population, filling a void in knowledge, in a region with an increasing incidence of cardiovascular diseases and AF.

2. Prolonged follow-up: 10 years of monitoring provide statistical strength and allow understanding the natural progression of AF.

3. Clinical applicability: the model is feasible and uses simple, accessible and clinically validated tools, not requiring expensive or specialized tests. This facilitates guiding and educating patients, particularly in populations with obstacles for accessing the health care system.

4. Elevated discrimination capacity: an AUC of 0.81 places HARMS2-AF in a competitive level with the main international scores.

LIMITATIONS AND EXPECTATIONS

In spite of its robustness, the study presents limitations to consider:

1. Its retrospective nature includes self-reporting risks. Many variables were estimated by questionnaires, with a risk of under or overestimation.

2. Exclusion of structural or electrical markers: no measures like atrial dilatation, or electrocardiographic ones (interatrial block) were incorporated, which could lead to enriching the prediction.

3. Underregistration of asymptomatic AF: as it is based on registries and reports, there could have been an underestimation of the real incidence of AF.

4. Limited generalization: although the findings are valuable for Latin America, they require external validation in populations with different ethnical and socioeconomic compositions.

CLINICAL AND PUBLIC HEALTH IMPLICATIONS

This study offers the chance of using simple and inexpensive tools to intervene early in risk populations, which may not only reduce the incidence of AF, but also the economic burden associated to its complications.

Its simplicity in its application and execution turns this tool into an ally for family doctors and primary care, which may work as a bridge between cardiology and public health, with the integration of community programs of control of hypertension, obesity and alcohol consumption.

FUTURE EXPECTATIONS

Multicenter, external validation is necessary to confirm its applicability in different realities of Latin America. Also, the integration of echocardiographic and electrocardiographic parameters could supplement prediction.

Cost-effective studies would be beneficial to evaluate whether the implementation of preventive measures in a large scale, like the HARMS2-AF, reduces major events and hospitalizations in relation to the costs of prevention programs.

CONCLUSION

The HARMS2-AF is a useful and valuable tool, particularly because it is easily available and applied. Its implementation in primary care can optimize the early identification of individuals in risk and facilitate personalized preventive interventions, adapted to the reality of Latin American countries.

Nevertheless, to reach a higher level of accuracy, we consider it essential for future versions of the model to integrate key cardiac structural variables, like left atrial dilatation. Likewise, it is necessary to enhance the study base and validate its use in different populations to facilitate its standardization.

The incorporation of this score into clinical practice may significantly contribute to the support of decision-making and timely interventions. In a context where AF presents an increasing prevalence and is still an important cause of cardiovascular morbidity and mortality, reinforcing prevention strategies can be a priority in all health levels. Its management is clear: AF is not unavoidable, but a condition whose emergence can be delayed or prevented by intensive control and prevention of risk factors.

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