



## EDITORIAL COMMENT

# The phenomenon of migration and cardiovascular risk factors<sup>☆</sup>



## O fenómeno migratório e fatores de risco cardiovascular

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Migration of human populations is universal and continues to the present day.<sup>1</sup> Migrations are frequently associated with problems of adaptation, which in turn can lead to increased cardiovascular risk.

Most developing countries do not have reliable recording systems that enable them to assess mortality rates or to quantify cardiovascular risk factors in the real world. Attempts to estimate the true burden of cardiovascular disease (CVD) in these countries, as well as to make projections of future trends, must therefore be based on local registries or on inferences using suitable data from other countries in the region.<sup>2</sup>

However, somewhat paradoxically, the burden of CVD in individuals of African descent living in the US and, to a lesser extent, in the Caribbean and the UK, has been the subject of considerable research over the last fifty years. This has shown, for example, that rates of hypertension are approximately 50% higher in African-Americans than in other races and, as a result, they suffer significantly increased mortality from stroke.<sup>3,4</sup>

There have been studies comparing hypertension in African and European populations,<sup>5</sup> while others have demonstrated increased cardiovascular risk in immigrants to

Europe.<sup>6,7</sup> However, a search of the international literature gives the impression that this subject has been addressed more thoroughly in African-American and African groups<sup>1,2</sup> than in European populations.

The study by Tavares et al. in this issue of the *Journal*<sup>8</sup> provides an original and pioneering analysis of the cardiovascular risk profile and social integration of university students from an African country (Cape Verde) studying in Portugal, comparing them with Caucasian Portuguese students studying in Portugal and Cape Verdean students studying in their home country.

The study found signs of poor adaptation among the Cape Verdean students living in Portugal. They took less exercise, were more likely to abuse drugs, more frequently reported difficulties with integration, and showed more signs of financial difficulties than the other two groups.

The study also revealed that, even after only a short time residing as immigrants in Portugal, the African students already showed significant changes in cardiovascular risk profile, such as higher blood pressure, body weight, salt intake, aortic stiffness and albuminuria, compared to individuals born and residing in Portugal, and increases in salt intake, body weight and albuminuria compared to individuals born and residing in Cape Verde.

As the authors point out, the increased cardiovascular risk found in this population could be related to difficulties adapting to the new country and the adoption of less healthy

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lifestyles, which may justify early preventive measures to prevent or mitigate this increased risk.

The study has two main points of interest. Firstly, it demonstrates increased cardiovascular risk in a young population, with a life expectancy of several decades; since it is not easy to change behaviors, it can be assumed that the persistence of these risk factors over time will compromise their cardiovascular health years later, which is a concern for society.<sup>9</sup> Secondly, the high level of education of university students might have been expected to act as a protective factor against the negative effects of a change in environment. However, this was not the case, and in fact the authors detected significant changes in the risk profile of this population after only a short stay in a foreign country.

Various social, cultural and economic factors are known to contribute to the development and persistence of health-related behavioral patterns, and to the ways in which they change. In this regard, adopting healthy behaviors and lifestyles has been shown to reduce the risk of CVD,<sup>10</sup> for which awareness of modifiable risk factors is important, but this was not specifically addressed in the study by Tavares et al. Knowledge of cardiovascular risk factors appears to be central to changing behavior: models of health behavior show that awareness of the negative consequences of a particular behavior is a necessary (though not always sufficient) condition for changing that behavior.<sup>11–13</sup>

This aspect of patients' knowledge should be taken into account when designing measures for the control of cardiovascular risk factors.

Overall, this work undoubtedly helps to deepen understanding of cardiovascular risk in migrants in Europe and opens the way for other studies in this area.

## Conflicts of interest

The author has no conflicts of interest to declare.

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