

## The Present and Future of the Cardioprotective Food Model for the Brazilian Population

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In recent decades, researchers have found important changes in the health pattern and food consumption of the Brazilian population. These changes have been associated with chronic non-communicable diseases, especially cardiovascular disease.<sup>1</sup>

The Global Burden of Disease Study (2019), which analyzed data on chronic non-communicable diseases in 204 countries and territories between 1990 and 2019, estimated that cardiovascular disease, which is attributable to modifiable risk factors such as cholesterol level, is the main health care burden worldwide. High LDL cholesterol and its associated mortality remain a major threat to public health. The report recommends that national health systems focus on new approaches that can reverse these trends, since there is an urgent need to implement effective policies and interventions to achieve a 30% reduction in premature mortality from non-communicable diseases.<sup>2</sup>

In this context, the World Health Organization recommends public policies focused on health strategies and periodic updating of national guidelines on food and nutrition that consider changes in eating habits and the health conditions of the population. Countries should invest in cost-effective programs and clinical interventions not only to address modifiable risks, but also to promote healthy aging, reducing disability and premature death from cardiovascular disease.<sup>1,3</sup>

The Mediterranean diet is the only diet that health and nutrition research has found to be

effective in reducing cardiovascular events. However, in view of the social transformations in Brazil, which have impacted its health and nutrition conditions, the Brazilian Cardioprotective Diet (*Dieta Cardioprotetora Brasileira* – DICA-BR) was created to adapt Mediterranean diet standards to typical Brazilian foods in an effort to protect the population's heart health. The DICA-BR is in line with the recommendations of the Food Guide and addresses the consumption of natural, minimally processed, and processed foods. However, individuals with some cardiovascular risk should receive specific guidance about managing their diet.<sup>1,3</sup>

The DICA-BR was based on the typical Brazilian diet, using the colors of Brazilian flag to classify food groups. The largest area of the flag is green, followed by yellow and blue, and the food groups follow this same logic. Since foods in the green group are cardioprotective, including vitamins, minerals, fiber, and antioxidants, and have no nutrients that can harm the heart, such as saturated fat, cholesterol, and sodium, they should be consumed in greater quantities. Foods in the yellow group should be consumed in moderation, since they have more calories, fat, or salt than the green group. Blue group foods should be consumed in yet smaller quantities, because they contain saturated fat, salt, and cholesterol, nutrients that can harm heart health. A red group was also created to include ultra-processed foods, whose consumption is not encouraged.<sup>3</sup>

A total of 35 reference centers for CVD treatment participated in the DICA-BR study to determine the efficacy of a typically Brazilian diet for preventing and reducing risk factors for cardiac events, including hypertension and high levels of total cholesterol, LDL, and triglycerides, as well as changes in blood glucose, weight, and waist circumference.<sup>3,4</sup>

### Keywords

Quality of Life; Diet; Cardiovascular Diseases/prevention and control; Cardiogenic Agents/administration and dosage; Public Health; Epidemiology; Diet, Food and Nutrition/habits.

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The DICA-BR diet is a balanced distribution of cardioprotective nutrients, prioritizing the most common and accessible foods in Brazil. The researchers evaluated 2,534 patients with heart disease, who were monitored by nutritionists who assessed regional consumption habits and adapted them to a culturally and economically accessible cardioprotective diet.<sup>3,4</sup>

A recent study tested the DICA-BR diet in 273 participants with heart disease and dyslipidemia. The intervention group received individualized diet guidance, educational programs, telephone calls, and individual and group consultations. The control group

received general dietary guidance. The results indicated that the DICA-BR was effective in reducing LDL-C and improving quality of life in the intervention group.<sup>5</sup>

Brazilian cardioprotective diet guidelines have been developed to encourage healthy eating practices, and this diet model is very effective because it values, recognizes, and considers the regional eating habits of the Brazilian population in its strategy to protect cardiovascular health. However, global research is needed to improve our understanding of LDL-cholesterol and determine treatment gaps in this persistent worldwide threat to health.

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