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Aline Marcadenti and Erlon Oliveira de Abreu Silva
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Correspondence

Letter by Marcadenti and Oliveira de Abreu Silva Regarding Article, "Chocolate Intake and Incidence of Heart Failure: A Population-Based, Prospective Study of Middle-Aged and Elderly Women"

To the Editor:

We read with interest the article by Mostofsky et al,¹ which showed that a moderate regular chocolate intake was associated with a lower rate of heart failure hospitalization or death between middle-aged and elderly Swedish women. However, some considerations must be made.

First, women with diabetes or previous myocardial infarction on baseline were excluded because persons with these conditions receive dietary counseling and may have changed their diet. On the other hand, the control group had higher rates of hypertension and high cholesterol than other groups as well as lower energy intake, alcohol consumption, and body mass index (BMI), showing a probable previous control of these risk factors and dietary changes within this group. Second, the food frequency questionnaire was administered only at baseline, and there is no evidence that after 9 years of follow-up, the subjects did not change their eating habits. Third, the authors did not include in the multivariable analyses robust protective factors associated with lower incidence of heart failure such as a Dietary Approaches to Stop Hypertension diet, which has been demonstrated previously in the same cohort,² and other food sources of flavanoids like fruits and tea. Moreover, there are other diseases and clinical conditions well established as risk factors for heart failure³ that were not included in the multivariable analyses. Fourth, although BMI is presented as a continuous variable in the study, it is known that obesity is a robust risk factor for incidence of heart failure,⁴ and the impact of BMI ≥ 30 kg/m² could be demonstrated among all participants. Fifth, the large number of women without information about physical activity ($\approx 20\%$ of participants) and in use of postmenopausal hormone therapy (associated with a higher global cardiovascular risk) as well as the

inherent bias of self-reported diagnosis of hypertension and dyslipidemia deserve consideration. Finally, the results indicate a beneficial effect of a moderate regular chocolate intake in heart failure, but eating small portions of chocolate over the month can represent a healthier lifestyle with a balanced diet, a behavior already demonstrated as cardiovascular protective.

Disclosures

None.

Aline Marcadenti, MSc

Division of Cardiology
Hospital Nossa Senhora da Conceição
Porto Alegre, Brazil

Erlon Oliveira de Abreu Silva, MD

Division of Interventional Cardiology
Hospital São Paulo
Universidade Federal de São Paulo
São Paulo, Brazil

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Correspondence to Aline Marcadenti, MSc, Division of Cardiology, Hospital Nossa Senhora da Conceição, Francisco Trein, 596, 4^o andar, 91.350-200, Porto Alegre, RS, Brazil. E-mail marcadenti@yahoo.com.br
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