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The environmental impact of diet in Latin American populations: a systematic review

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Food production accounts for one third of global greenhouse gas emissions⁽¹⁾. Similarly, the demand on the food system depends in part on people's food choices. Thus, several studies have estimated the environmental impact of dietary patterns based on food consumption data from developed countries^(2,3). This has led to literature reviews comparing the evidence for the impact of different diets on the environment and health status^(4,5). However, similar analyses from developing countries are scarce. In this context, this systematic review sought to analyse and compare the available literature on the environmental impact of the diet of Latin American populations.

A systematic review was conducted using the ©2024 Covidence online software. Searches were conducted in Medline, Embase, Web of Science and Scopus databases. Inclusion criteria were studies measuring different markers of environmental impact such as carbon, water or ecological footprint related to food consumption in Latin American countries. We narratively synthesized the evidence by country, environmental markers, socio-demographic factors and dietary intake reported by each country.

Out of 3007 papers, 30 were included in this review. Eight Latin American countries have reported the environmental impact of diet, with the majority coming from Brazil (n = 8), followed by Mexico (n = 6), Argentina (n = 3), Chile (n = 3), and Peru (n = 2) while only study was available for Colombia, Costa Rica and Guatemala. Water and carbon footprint were the most commonly used measures of the environmental impact of people's diets. The average (IC 95%) carbon footprint reported were 2.3 (2.1; 2.3); 2.6 (2.6; 4.4); 3.4 (2.4; 4.7); 4.5 (4.4; 4.6) and 8.3 (4.5; 12.4) KgCO₂eq/person/day in Guatemala, Peru, Chile, Brazil and Argentina, respectively. In general, men, middle-aged adults and people with higher educational and socio-economic levels were positively associated with a higher diet-related environmental footprint. In addition, beef and vegetables were the foods with the highest and lowest environmental impact attribution, respectively.

Our review reveals a significant lack of research on the environmental impact of diet in Latin American populations. This underlines the need to establish a regional database documenting the environmental footprint of commonly consumed foods in Latin America. This would allow for the development of studies to provide evidence to promote public policies to achieve more sustainable diets in the region.

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